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COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

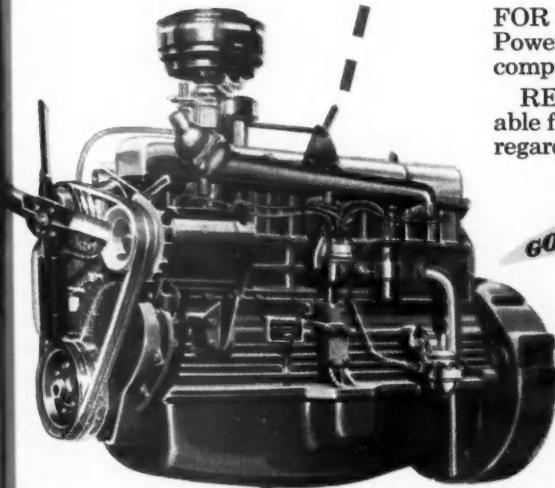


Reo Eager Beaver with Gold Comet Power emerges from under water, Rainbow Springs, Fla.

One great engine . . . two vital needs!

FOR YOU, Reo Trucks with Gold Comet Power earn up to \$2160 more per year, compared with 5 competitive makes!

REO Gold Comet Engines are also available for replacement in your present trucks, regardless of make.



GOLD COMET

Reo Tractor Unit

Reo Gold Comet Engine



REO MOTORS, INC. LANSING 20, MICHIGAN



You'll save plenty
with dependable
DODGE
"Job-Rated" TRUCKS

Yes, you can cut hauling costs plenty with a truck that's built throughout for fast, economical transportation . . . a Dodge "Job-Rated" truck!

Your Dodge truck will have power to spare for every need. And you get the *right* engine for top fuel economy and low upkeep on *your* job. On models of $2\frac{3}{4}$ tons and up, a twin carburetion and exhaust system is offered for extra power with high efficiency.

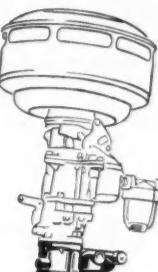
Your Dodge truck will be "Job-Rated" for easier handling and easier riding, too! You'll save time on the road with less driver fatigue . . . wherever you go!

Visit your Dodge dealer soon. Let him show you the new Dodge "Job-Rated" trucks with over 50 brand-new features. You'll get the facts on the "Job-Rated" story . . . how you can get years of dependable service with top-notch economy. There's a Dodge "Job-Rated" truck to fit *your* job!

"Job-Rated" TRUCKS DO THE MOST FOR YOU

To control
speed, you need
the right kind
of governor.

this



not this

Same way with trucks.
Get one that fits the job!

**How Dodge trucks are "Job-Rated"
for fleet operators**

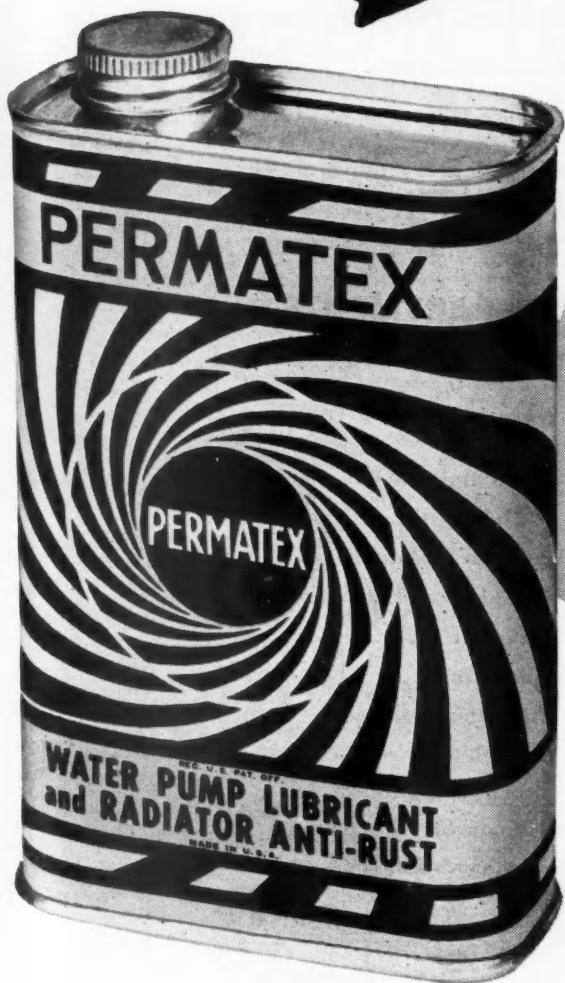
A Dodge "Job-Rated" truck is engineered at the factory to fit a specific job . . . save you money . . . last longer.

Every unit from engine to rear axle is "Job-Rated"—factory-engineered to haul a specific load over the roads you travel and at the speeds you require.

Every unit that SUPPORTS the load—frame, axles, springs, wheels, tires, and others—is engineered right to provide the strength and capacity needed.

Every unit that MOVES the load—engine, clutch, transmission, propeller shaft, rear axle, and others—is engineered right to meet a particular operating condition.

WATER PUMP *Lubricant*



Dual
COOLING SYSTEM
Service
...LUBRICATES
...PREVENTS RUST

Takes squeals out of water pumps and clarifies water in cooling systems. It contains a Soluble Oil that lubricates all water pump parts and coagulates rust. Harmless to metals and rubber hose. Works perfectly in the presence of any standard anti-freeze.

PERMATEX COMPANY, INC., BROOKLYN 35, N. Y.

COMMERCIAL CAR

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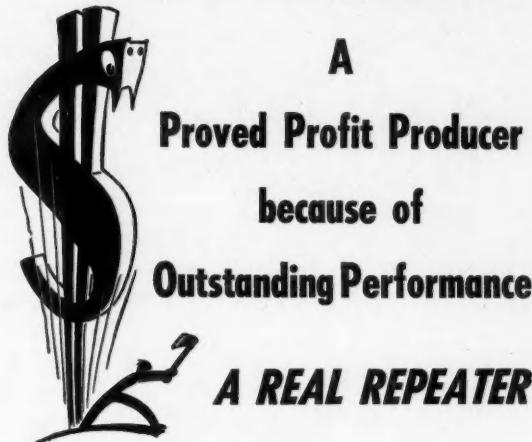
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6 Tablets to the Tube

for ALL Radiator Cooling Systems

5,000 to 25,000 More Miles between overhauls.
Increase in Power — Decrease in oil and gas consumption through increased cooling efficiency.

Longer Equipment Life. Non-Toxic, guaranteed harmless to personnel and equipment — no residue — no neutralizer.

PROMINENT FLEET OWNER RE-ORDERS up to 1,000 tubes at one time.

Another 60 dozen tubes.

Another 42 dozen tubes.

Customers are awaiting you to sell them.

SEVERAL EXCLUSIVE TERRITORIES

Available on this EXCLUSIVE Product

Write Today
or Wire Collect
for full details

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New York 20, N.Y.



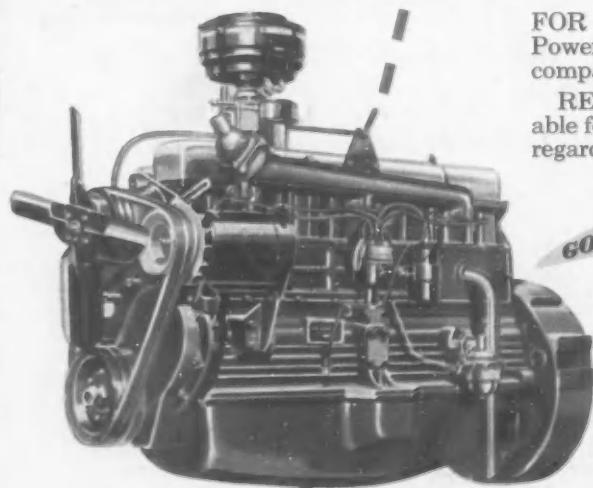
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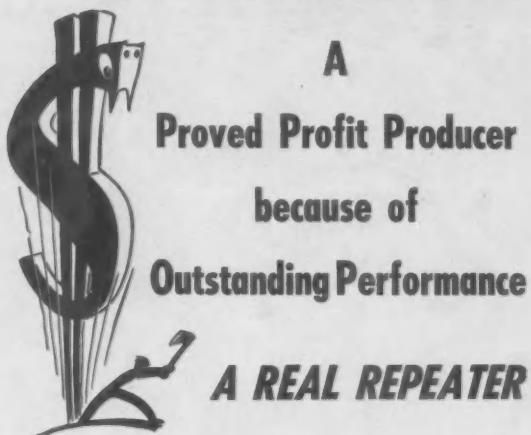
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for ALL Radiator Cooling Systems

5,000 to 25,000 More Miles between overhauls.

Increase in Power — Decrease in oil and gas consumption through increased cooling efficiency.

Longer Equipment Life. Non-Toxic, guaranteed harmless to personnel and equipment — no residue — no neutralizer.

PROMINENT FLEET OWNER RE-ORDERS up to 1,000 tubes at one time.

Another 60 dozen tubes.

Another 42 dozen tubes.

Customers are awaiting you to sell them.

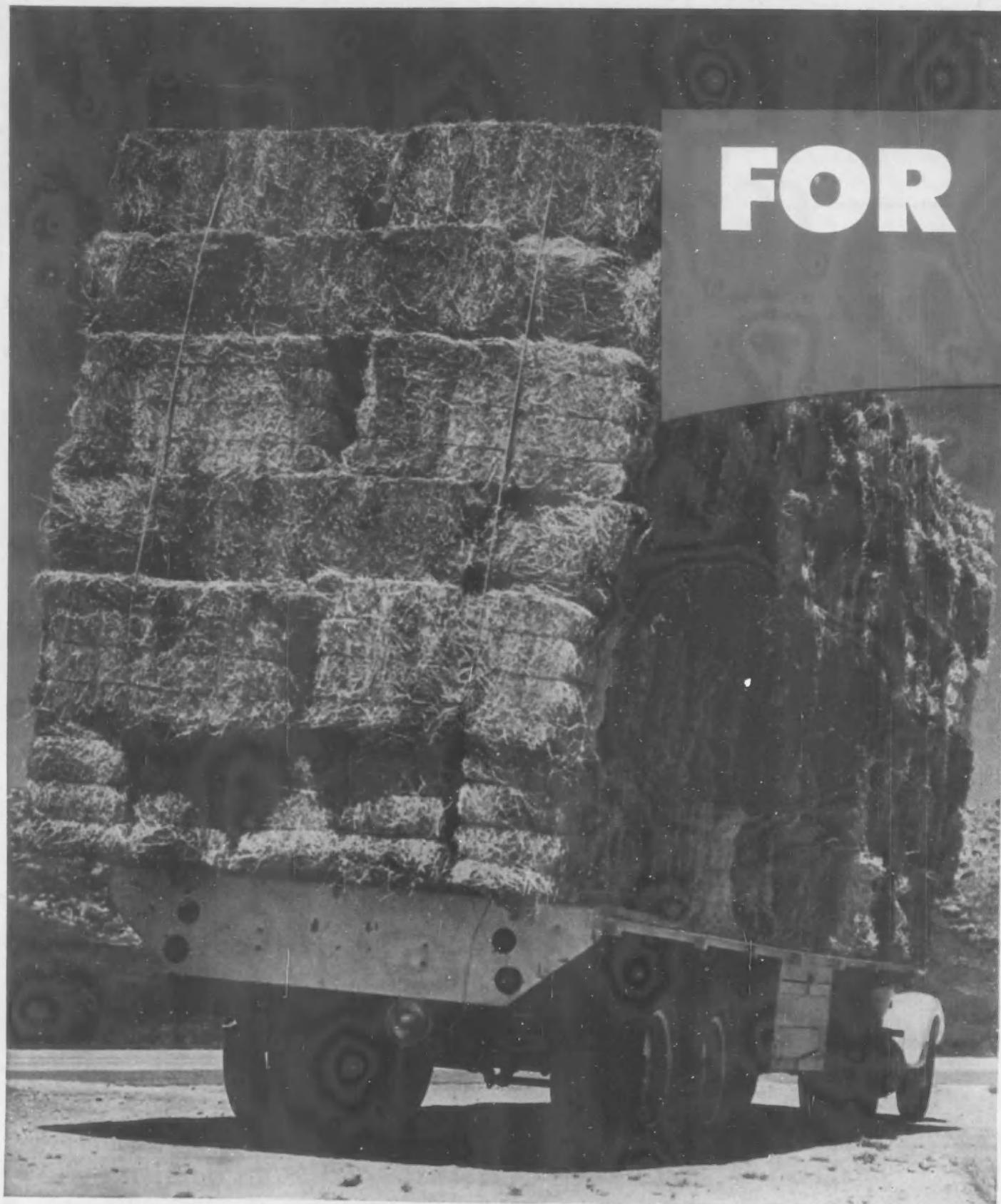
SEVERAL EXCLUSIVE TERRITORIES

Available on this EXCLUSIVE Product

*Write Today
or Wire Collect
for full details*

AMERICAN SAND-BANUM CO.
Established 1926
9 Rockefeller Plaza
New York 20, N.Y.





TEXACO

COMMERCIAL CAR JOURNAL, July, 1951

SAVINGS THAT "AIN'T HAY"

... lubricate with **TEXACO MARFAK**

For worth-while savings in maintenance costs, there's nothing like *Texaco Marfak*. In chassis bearings it clings with a bulldog grip. Heavy loads won't squeeze it out. Rough roads won't pound it out. *Texaco Marfak* lasts longer . . . seals out dirt and moisture . . . protects against wear and rust for extra hundreds of miles.

In wheel bearings, use *Texaco Marfak Heavy Duty*. The protection against dirt and moisture, wear and rust, *really lasts*. And you'll operate with greater safety because *Texaco Marfak Heavy Duty* stays in the bearings—off the brakes. No seasonal change is necessary.

More than 400 million
pounds of **Texaco Marfak**
have been sold

For greater engine economy, lubricate with *Texaco D-303 Motor Oil*. It's fully detergent and dispersive, keeps engines—heavy-duty gasoline or Diesel—free of carbon, gum and sludge . . . fully protected against wear. Maintenance costs come down, so does fuel consumption.

For a fleet that's tops in operating efficiency and maintenance economy, follow the recommendations of your Texaco Lubrication Engineer. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street,
New York 17, N. Y.

Lubricants and Fuels FOR THE TRUCKING INDUSTRY

CONFERENCE CORNER

PRESENTING FACTORY ENGINEERS' VIEWS ON TIMELY SUBJECTS OF INTEREST TO FLEETS

Subject: Heavy-Duty Electrical Parts

Question: Will they improve engine efficiency?

Alfred Roffman
of Standard Motor Products, says . . .

In the starting-lighting-ignition system, a heavy-duty part is one in which are incorporated features that bring about what we call, "long life, peak performance." In other words, a heavy-duty electrical part is one that is better than the conventional part found in the car. Of course, everyone knows that 4-ply tires are installed as original equipment—but when anyone wants a better replacement, he will purchase 6-ply tires which give better service and longer wear.

In electrical parts, "heavy-duty" may mean, for instance, in ignition breaker points, a larger area tungsten contact among other things; in condensers, heavier insulation and better moisture proofing; in relays and voltage regulators, larger windings and sturdier construction; in dimmer switches, water-proof, 1-piece bodies, better than assembled steel stampings, which are vulnerable to water splashings. All of these features tend to prolong the life of the operating parts, resulting in lower maintenance costs.

When we came out in the early 1930's with our line of heavy-duty electrical parts for the car, many said that if heavy-duty parts were necessary, the original equipment manufacturer would have furnished them on vehicles as standard equipment. That this contention was incorrect was proven some years later when it was found that many of the ideas and features pioneered in our line were copied by original equipment manufacturers for certain applications.

Certain ignition distributors, for instance, in which ventilation is not sufficient to carry off the corrosive crankcase vapors, must have stainless steel breaker arm springs. The same idea applies to all the other features of heavy-duty electrical parts. While an absolute *must* in certain applications, the use of such parts in general has proven to many fleet operators that the slight additional base cost of heavy-duty parts has more than paid for itself in savings, in maintenance, down time, and road economy.

H. H. Birt
of Delco-Remy, says . . .

In the first place, all automotive electrical systems are worked out through the mutual efforts of the vehicle and electrical equipment manufacturers. Understandably, this procedure usually involves some compromises because of cost factors and minor differences in engineering viewpoints. The end result, however, should be, and usually is, an economical and dependable system which can be expected to perform satisfactorily under the conditions in which the vehicle is expected to operate.

The electrical system, as specified by the combined efforts of the engineering staffs of the manufacturers, may or may not include "heavy-duty" units as defined by the present loose use of this term. Engineering-wise, an electrical unit is selected because of its ability to function satisfactorily (with an adequate reserve) and not because of size, weight, external appearance or any other of the many extraneous features commonly accepted as being indicative of "heavy-duty" construction. Most original equipment manufacturers would undoubtedly be happy to see the term "heavy-duty" excluded from trade usage because of the confusion which it creates, but for the same reason others without responsibility for life or performance find it a powerful sales tool.

It must be admitted that, because of the compromises already referred to, occasional instances may be found where the substitution of a different unit in an electrical system will produce a noticeable improvement. Usually, any substitute unit capable of causing a real improvement in performance or economy, however, will be found to be either more expensive or to have a greater reserve than the original equipment—thus merely reflecting the facts on which the engineers made their decision. An owner who finds that a substitution of electrical units is beneficial should make this fact known to the manufacturer of the vehicle so

(TURN TO PAGE 124, PLEASE)

B.F. Goodrich

How trucker gets 75,000 miles from BFG tires

TRUCKS that haul general freight 24 hours a day with three shifts of drivers need to have extra-tough, long-wearing tires. For such jobs, truck operators across the country prefer B. F. Goodrich truck tires. Between the tread rubber and the cord body of every BFG tire of 8 or more plies is the *nylon shock shield*. Strong, elastic nylon cords set in rubber stretch *together* to absorb and distribute road shock and protect the tire body. This exclusive B. F. Goodrich feature gives you a 4-way saving: (1) greater average mileage (2) increased bruise resistance (3) less danger of tread separation (4) more recappable tires.



"BFG Super Highway tires are tops"

Two mountains and the "Jacob's Ladder" on the Mohawk Trail lie on the route of the Old Colony Transportation Company of New Bedford, Mass. The B. F. Goodrich Super Highway tires on this company's 40 tractors, 35 trucks and 107 trailers are in continuous service throughout stormy New England winters. Yet, based on experience, President George Vigeant expects that with one recap each tire will be good for 75,000 miles!

After trying many makes, Mr. Vigeant found that Super Highway tires stand up better than any others. The tread is thicker and flatter than that of conventional truck tires, giving you longer, trouble-free mileage. And with the Super Highway you get the added saving and impact resistance of the patented nylon shock shield. No wonder Mr. Vigeant says: "We have less wear and better mileage when using Super Highway tires."

B. F. Goodrich builds tires that meet every trucking need. Find out about them from your B. F. Goodrich dealer or write: *The B. F. Goodrich Company, Akron, Ohio.*



AUTO-LITE TRANSPORT



Auto-Lite Spark Plugs
Patented U.S.A.



AIRCRAFT TYPE INSULATOR

Offers maximum resistance to heat and reduces fouling.



HEAVY ELECTRODES

Give longer gap life which contributes to lower service costs by requiring regapping less often.



RUGGED CONSTRUCTION

Especially suitable for the most severe bus and truck operation.

NO WONDER more and more of America's top fleets are switching exclusively to Auto-Lite Transport Spark Plugs. This rugged heavy-duty plug delivers lowest cost per mile of spark plug operation. Learn for yourself why fleet operators coast to coast are so enthusiastic about this new Auto-Lite Transport

Spark Plug, the spark plug that *delivers the goods*. Write Auto-Lite for the assistance of an experienced Field Engineer. He will gladly help you get best spark plug and engine performance. Make a test in your fleet today.

THE ELECTRIC AUTO-LITE COMPANY
Toledo 1, Ohio Merchandising Division Toronto, Ontario

SPORT SPARK PLUGS

*deliver
the goods*

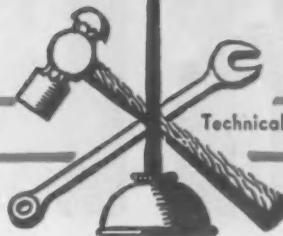


You're Always Right With Auto-Lite

At Your Service

By M. K. SIMKINS

Technical Editor, Commercial Car Journal



Visual Inspection of Wiring

It comes to our attention that many mechanics are wasting considerable time in engine tune up by ignoring some of the most obvious causes of electrical troubles. A visual inspection of electrical wiring must precede tests for voltage drop, resistance and changing current settings. In most cases you can tell at a glance whether the wires are sound. Evidence of fraying wires, loose ends at the battery terminal clamps, cracked insulation of high tension leads, grease-covered harness are conditions which must be remedied if you are to expect efficiency.

Corrosion on the battery terminals must be removed before hooking up a volt-ammeter. Loose connections must be tightened if you are to get accurate readings and proper adjustments. If you can move a wire by pulling on the connection, that lead is loose and you will get resistance in the circuit. If contacts are dirty or corroded, you can expect a voltage drop across the switch or the points or the connection. That goes as well for the distributor cap wells, the contact points in the cap and the metal tips on the high tension leads.

All these factors can be found through careful inspection before attempting the job of engine tune up. So use your eyes before you use precision instruments. You can save time and what's more you can get better adjustments with resultant improved engine performance.

Are You Satisfied With Your Gas Mileage?

Aside from engine mechanical efficiency there are other important factors involved in attaining more miles per gallon of fuel. We are all familiar with the fact that carburetion, ignition, valving, compression and timing must be held to close tolerances in order to keep engine efficiency high, but are prone to overlook the fact that the driver and the loader also figure into the picture.

It must be remembered at the outset that we are not interested in how many operating *hours* we can get on a gallon of gasoline, but how many *miles* can we drive that rig on a given amount of fuel. So before you blame your engines for eating up gasoline, first check to see how efficient your driving is. With long idle periods while making deliveries, with the use of restricted routes littered with stop signs and low speed

areas, with excessive stops and starts arising from any reasons, you can expect to live with gasoline hogs. It is inherent with the gasoline engine that efficiency decreases at partial throttle opening, and the larger the capacity of the engine, the more fuel you will waste while she waits at a red light or waits for a driver to make his delivery.

When a $\frac{3}{4}$ -ton vehicle is loaded to twice its rating, you will expect to pay higher operating costs in fuel as well as repairs. Yet some operators blame over-loaded engines for using too much fuel. When lower gear ratios must be used to pull your loads over the hills and when your drivers permit her to lug rather than shift to proper gear ratio, you are paying through the nose. Best look into your drivers' habits in a first check on excessive fuel consumption. And finally, when you set up rigid schedules that make high speeds necessary, adjust your revenue to pay for this excessive speed, for records prove that you will use 10 per cent more gasoline at 50 miles per hour than you will at 30.

It's Brake Squeal Again

Brake squeal has been with us a long time—as have suggestions for eliminating it. However, before you blame pixies, check up on your bonding procedures. Some methods of bonding using convection heat produce a glaze on the linings which will contribute to squeal in some cases. So rough up the linings with a coarse sandpaper before installing them. Also be sure that the lining is not too hard for the drum material.

Check up on the complete foundation system. Squealing is a result of vibration, and this can be caused by improper adjustments which develop concentrated pressure areas at the heel or toe of the shoe. In this respect out-of-round drums or too thin drums will contribute to squealing brakes. Defective wheel bearings, worn anchor pins, loose backing plates or just plain dirt can also be responsible for this noise.

Transmission Oil Filters

Proof that transmission life can be lengthened by use of oil filters has been developed in road tests, which show that filters remove foreign materials detrimental to gears and bearings, according to data released by the Fuller Mfg. Co.

(TURN TO PAGE 14, PLEASE)

"Greatly Aided our Entire Operation from an Economy Standpoint"

Says MR. HAROLD MEHL, Supt. of Equipment,
Illinois Highway Transportation Co., Peoria, Illinois



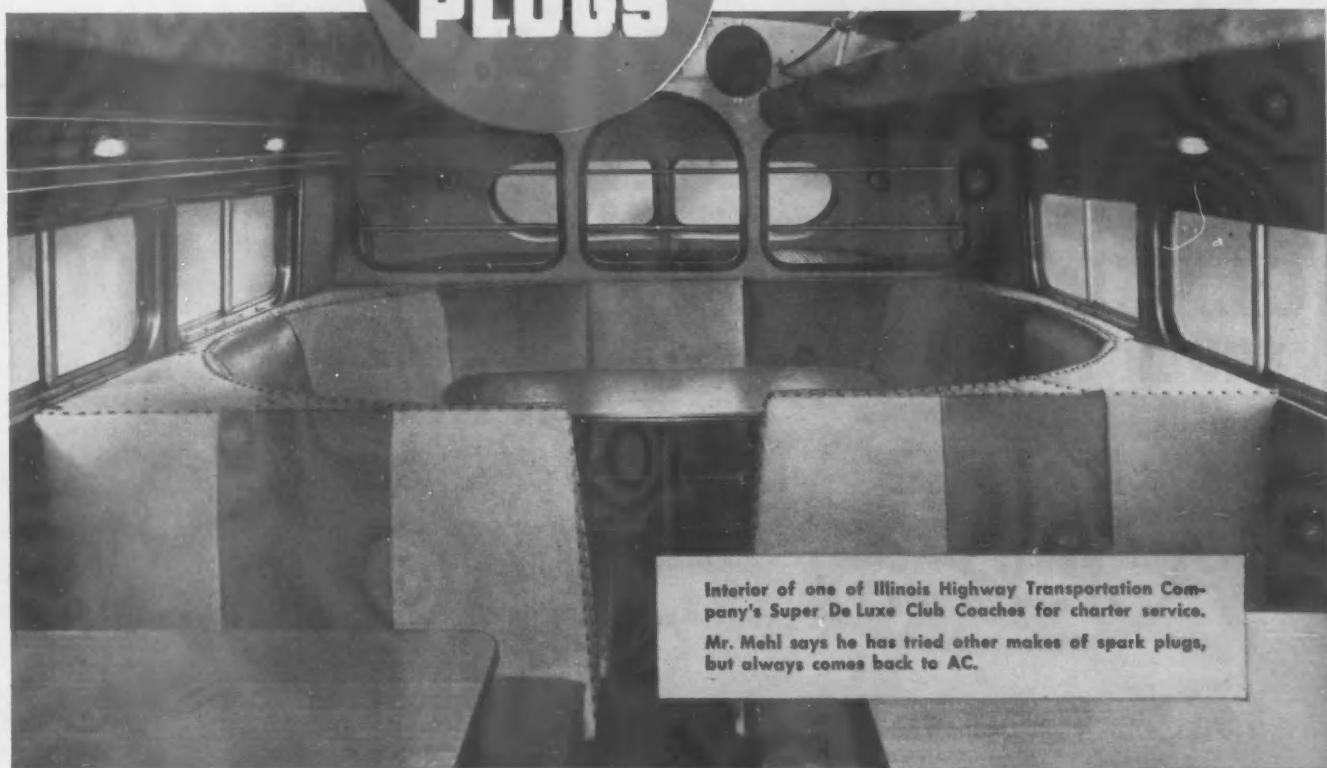
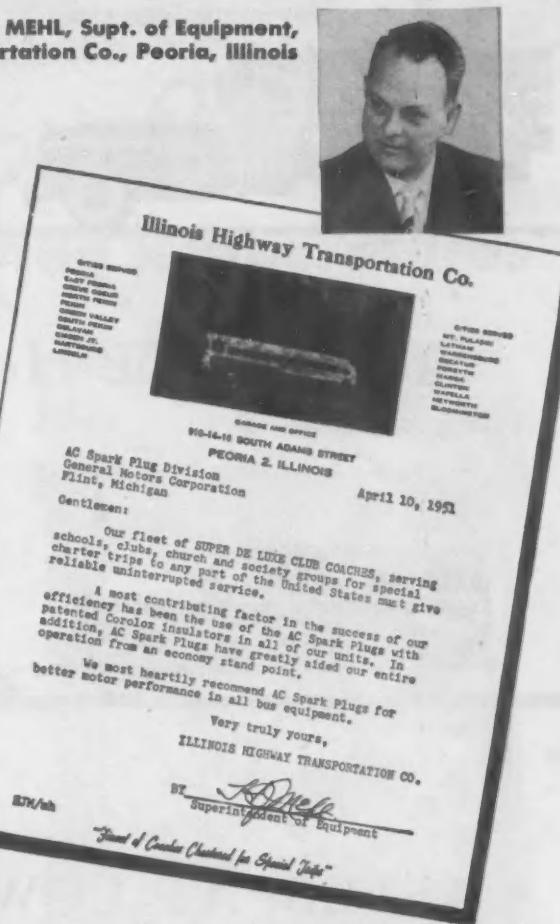
between a score of Illinois cities; Second, a company offering super de luxe club coaches for chartered trips anywhere. Their 43 buses travel over 1,500,000 miles a year.

For 20 years, Illinois Highway Transportation Co. has used AC Spark Plugs—and now use them exclusively. They give credit to AC Plugs with patented CORALOX Insulator for helping to achieve their fine record of economy and reliability. AC Commercial Type Spark Plugs will give superior service in your engines, too.

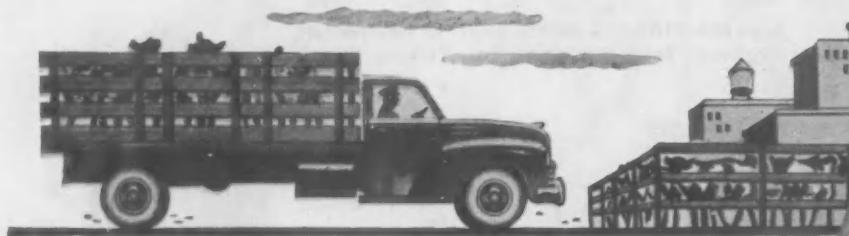
AC SPARK PLUG DIVISION



GENERAL MOTORS CORPORATION



Steers to Market...



Steaks to the Home...



FASTER, AT LOWER COST

ON THE **GENERAL RIB HIGHWAY**

**THE
GENERAL
TRUCK TIRE**

KRAFT

SYSTEM

RECAPPING

A GENERAL TIRE SERVICE

MORE ORIGINAL MILES

Engineered so that each thick, deep-grooved safety rib works together to spread the load evenly over the entire surface. The result is slow, even wear for thousands of extra original miles that mean more deliveries at less cost.

MORE RECAP MILES

Heavy shock-absorber plies prevent blistering, buckling and separation. More miles of rayon cord in a stronger carcass enables General Tires to take recap after recap for thousands of extra low-cost miles.

THE GENERAL TIRE & RUBBER CO., AKRON, OHIO

REQUEST **GENERAL TIRES** ON YOUR NEW EQUIPMENT

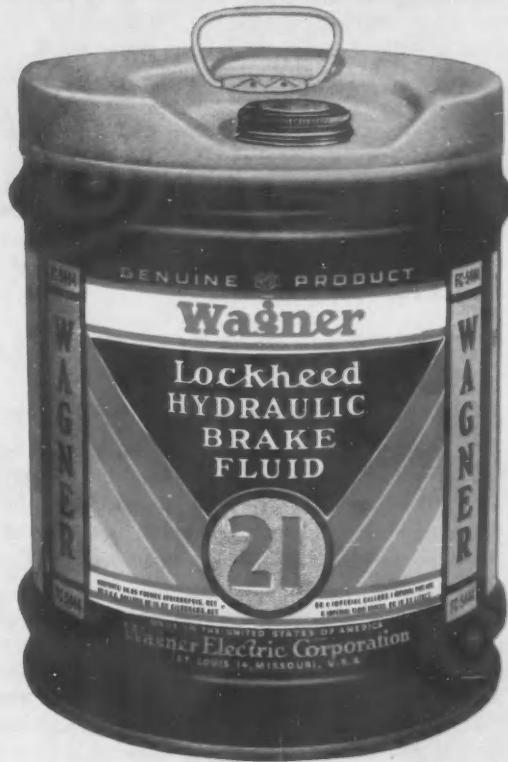
For All Seasons

WAGNER LOCKHEED BRAKE FLUID

functions under all driving temperatures

You can't beat Wagner Lockheed Hydraulic Brake Fluid for dependable performance under all operating conditions . . . in all seasons. It mixes with any other approved type of fluid your customer may have in his brake system. Wagner fluid maintains its chemical characteristics and lubricates the brake system over the operating range of temperatures. It forms no gummy residue and will not harm metal or rubber parts. Surpasses S. A. E. standards.

You can depend on Wagner quality because Wagner products are used as original equipment by automobile, truck and trailer manufacturers. See your nearest Wagner Jobber, or write us for details. Ask for Bulletin HU-17H on "Hydraulic Brake Service."



...and all from **ONE** source.... your Wagner jobber....



WAGNER LOCKHEED HYDRAULIC BRAKE PARTS — a complete line, covering all makes of cars and trucks, including seldom used, slow-moving parts not easily obtainable elsewhere.



WAGNER CoMaX BRAKE LINING—offers complete coverage for all your needs . . . in sets, rolls, blocks, slabs and cut segments. A non-compressible, long-wearing lining of uniform texture.

Wagner Electric Corporation

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(Branches in Principal Cities and in Canada)

MS1-10

Wagner

*...the best known
name in brake service*



LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • MoRoL • CoMoX BRAKE LINING • AIR BRAKES
TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

At Your Service

Continued from Page 10

As a result of one series of tests, made on its own equipment, Consolidated Freightways of Portland, Oregon, one of the largest West Coast highway haulers, has notified Fuller that it has adopted the Fuller transmission gear oil filter on all its highway units.

Describing results of one of its tests, Mr. E. B. Ogden, Superintendent of Maintenance, reported: "A sample of oil was taken from a 4B86 transmission, the oil having accumulated 23,198 miles. A filter was then installed, and the same oil continued in use for another 33,603 miles, at which time a sample was again taken. Laboratory analysis was made of both samples and the results of the analysis proved that the oil had accumulated the higher mileage, was much less contaminated with foreign material than when the filter was installed. With such laboratory proof at hand, it is our conclusion that the use of transmission oil filters should materially extend the life of transmission gears and bearings."

Recheck Each Adjustment—Always

In the interest of saving time in a tune up job, many mechanics are tempted to readjust a component carefully—then fail to recheck the gap after the locking nuts or the securing mechanism is tightened. The result is an adjustment that may be as far off as the original maladjustment.

When you adjust contact points make a careful recheck after the locking nut or retaining screw is tightened. With regulators, bend the spring mounting piece just beyond the correct setting and recheck. Fatigue in the metal will throw off the gap adjustment here if you don't observe care. Always double check valve-tappet clearances after the lock is secured.

About Summer Tire Care

The coming summer months will take their toll of your tires, for heat is one of the leading enemies of rubber. A graph showing the effect of heat on tread life (CCJ April, page 121) shows that an increase from 75 to 85 degrees in carcass temperature will result in a reduction in tread mileage of about 13 per cent. And a decrease in temperature from 75 to 65 degrees will add about 9 per cent to the expected tread wear.

J. E. Powers, manager of truck and bus tire sales for the B. F. Goodrich Company, offers the following seven rules which should be observed especially during hot summer months in an effort to improve tire mileages.

1. Drain the shop air compressor daily to draw off water and oil accumulations.
2. Use accurate air gauges. Each driver should have a personal gauge which should be checked regularly against a master gauge.

3. Gauge and record all tire pressures, including the spares, before adding air to any of them. Slight variations are normal; wide ones are not and may prove the source of possible tire trouble.

4. Replace lost air daily. Getting into the habit of a daily air check will locate abnormal seepage which might be caused from a puncturing nail or other object picked up the previous day.

5. Inflate tires when they are cool, not after they have been running 150-200 miles. By checking pressure when tire is hot you will risk dangerous underinflation when it cools off.

6. Valve insides should be tested when inflating and replaced where necessary. Be sure valve caps are on—finger tight. The purpose of a valve cap is to seal air permanently in the tube and prevent dirt and water from entering the valve core.

7. Be sure the outside threads at the tip of the valve are not damaged and the tip itself is not burred. The cap cannot form an airtight seal if threads don't permit it to be tightened sufficiently.

Tappet Clearance

The Engineering Department of McQuay-Norris has made a series of tests on all types of engines to determine the proper valve-tappet clearance in different types of service, and while they are not ready to make specific recommendations for deviation from the manufacturer's specifications, a review of the tests may help to show how unexpected the results can be.

In a popular L-head passenger car engine the reduction in exhaust valve lash when going from idle to high speed, full load, was .007 in two minutes. If the tappets had been hurriedly adjusted without allowing time for proper engine warm up, the entire lash might have been used up and the valve faces held off their seats with burning as the final result. (It takes a full 20 minutes to normalize the engine).

In a medium duty overhead valve engine it was found that even though the intake valves could not be made to close up more than .005 under the most severe change in operating conditions, the exhaust valve lash closed up to .021 in going from idle and normal settings to 3000 rpm, full load, late spark, and lean air-fuel ratio. In the same engine operating efficiently with the tappets set to the original recommended clearance, a comparatively short mileage at high speed and full load resulted in burned exhaust valves due to the entire lash being used up so that the valves were held open.

In a heavy-duty overhead valve engine there was more closing of the intake valve clearance in contrast to the general view that exhaust valve changes are greater than the intake. In this engine not only was there more closing of the intake valve clearance, but the originally specified clearance was entirely used up and the intake valves burned from holding open.

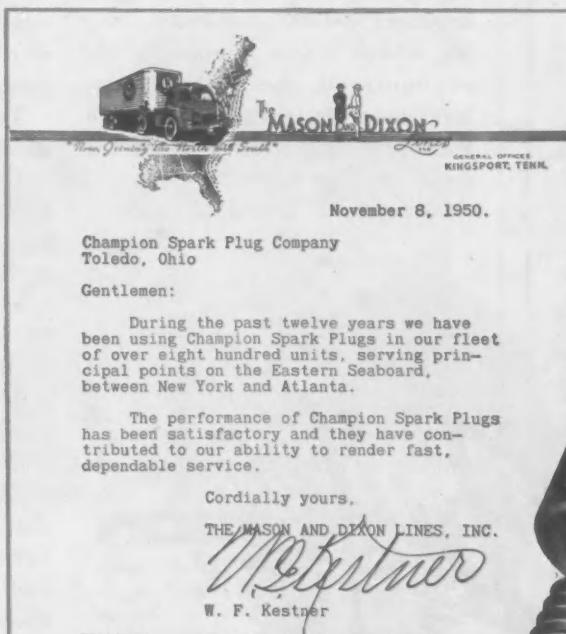
Results of these tests can be interpreted as emphasizing the need for trial experimenting with engines that are hard on valves. Actually lash measurements may vary from cylinder to cylinder and when engine load and speed are reduced to idling, the lag in lash change can give objectionable idle stalling conditions at an inopportune time. Therefore, maintaining proper mechanical lash is a continuing maintenance problem inherently subject to many errors.



**800 MASON-DIXON TRUCKS HAVE
BEEN USING CHAMPION SPARK PLUGS
FOR 12 YEARS with COMPLETE SATISFACTION!**

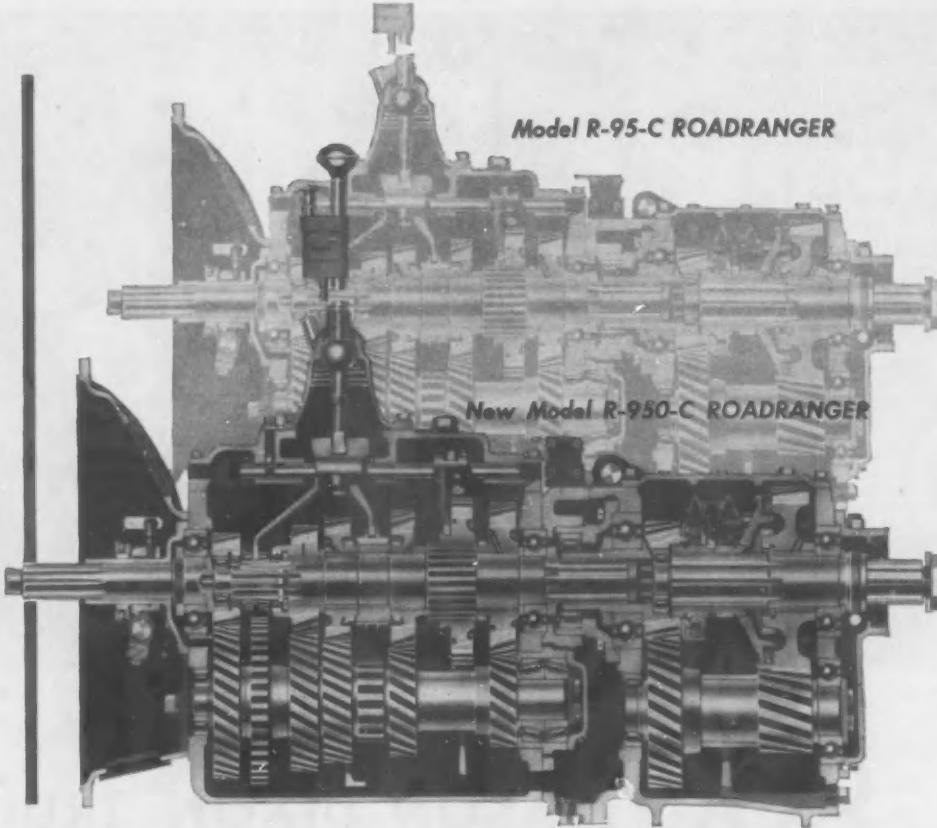
*FOLLOW THE
EXPERTS*

**Specify Champions
for Your Fleet!**



Listen to the CHAMPION ROLL CALL... every Friday night, over the ABC network... CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Now
another
new
Fuller



ROADRANGER

plus Overdrive!

gives you
all this...

- 10 speeds forward and 2 reverse
- No gear splitting—10 selective gear ratios evenly and progressively spaced
- Easier, quicker shifts—only 28% steps
- One shift lever controls all 10 forward speeds
- Higher average road speed
- Engine operates in peak hp range for top fuel economy
- Less driver fatigue with $\frac{1}{3}$ less shifting
- Range shifts pre-selected—automatic and synchronized

Designed for heavy (150-300 hp engines) over-the-highway hauling where severe conditions are encountered, the Fuller "one-lever-controls-10-speeds" ROADRANGER has been a sensation since its introduction.

Now, the addition of an over-

drive ratio makes for even more flexible operation . . . increases ROADRANGER versatility, economy, driver acceptance.

You get these gear ratios: **LOW RANGE**: 1st, 7.45; 2nd, 5.82; 3rd, 4.49; 4th, 3.55; 5th, 2.76. **HIGH RANGE**: 6th, 2.10; 7th, 1.64; 8th, 1.27; 9th, 1.00 and **OVERDRIVE**, 0.779! (Husky reverse of 9.89 in low range; 2.78 in high range.) Clutch housing sizes—SAE No. 1 or No. 2.

The R-950-C weighs only 804 pounds with standard controls. It features all helical gearing for higher capacity with lower weight than conventional transmission development—the Model R-950-C Fuller ROADRANGER—10 speeds forward with overdrive.



FULLER MANUFACTURING COMPANY (Transmission Division), KALAMAZOO 13F, MICHIGAN

Unit Drop Forge Division, Milwaukee 1, Wis. • WESTERN DISTRICT OFFICE (SALES & SERVICE—BOTH DIVISIONS), 1060 E. 11th Street, Oakland 6, Calif.

"I haul 15-ton loads for 3 $\frac{7}{10}$ ¢ a mile!"

— says E. P. BOYETT, Beaumont, Texas



"I find my F-8 Ford Truck more economical than any other make!" says trucker Boyett.

Big loads are *bigger* in Texas—and miles are longer, too. Boyett has put over 70,000 miles on his 1950 Ford F-8 BIG JOB in a year. He was one of the 5,000 owners who kept daily records in the nationwide Ford Truck Economy Run and reports:

"In 5 months of general haul-

ing I traveled 26,209 miles with loads averaging 15 tons. Yet it cost only \$967.67 for gas, oil and maintenance with no repairs! That's a mighty thrifty running cost of only 3.69 cents a mile!"

Like others who rely on Ford for low running costs, Boyett is sold on the periodic, money-saving service he got from his local Ford Dealer. For more facts on the trucks that last longer and save you money every mile—mail the coupon below.



FORD TRUCKING COSTS LESS

because FORD TRUCKS LAST LONGER!

Using latest registration data on 7,318,000 trucks, life insurance experts prove Ford Trucks last longer!

POWER PILOT helps TRUCKERS hold down hauling costs

The Ford Truck POWER PILOT is a simpler, fully-proven way of getting the most power from the least gas.



• It automatically meters and fires the right amount of gas, at precisely the right instant, to match constantly changing speed, load, and power requirements.

Unlike conventional systems, the Power Pilot uses one control instead of two, yet is designed to synchronize firing twice as accurately.

You can use regular gas . . . you get no-knock performance. Only Ford in the low-price field gives you Power Pilot Economy!

MAIL THIS COUPON TODAY!

FORD Division of FORD MOTOR COMPANY
3201 Schaefer Rd., Dearborn, Mich.

Send me without charge or obligation, detail specifications on Ford Trucks for 1951.

Full Line Heavy Duty Models

Light Models Extra Heavy Duty Models

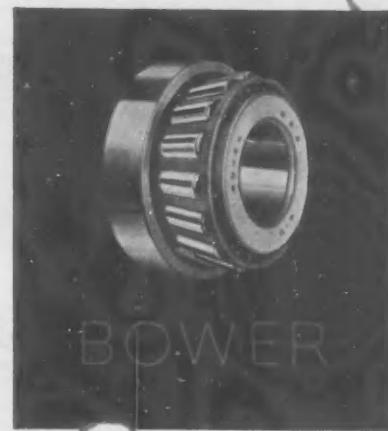
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Quality

BOWER tapered or straight roller bearings for the best replacement in cars, trucks, buses and trailers.



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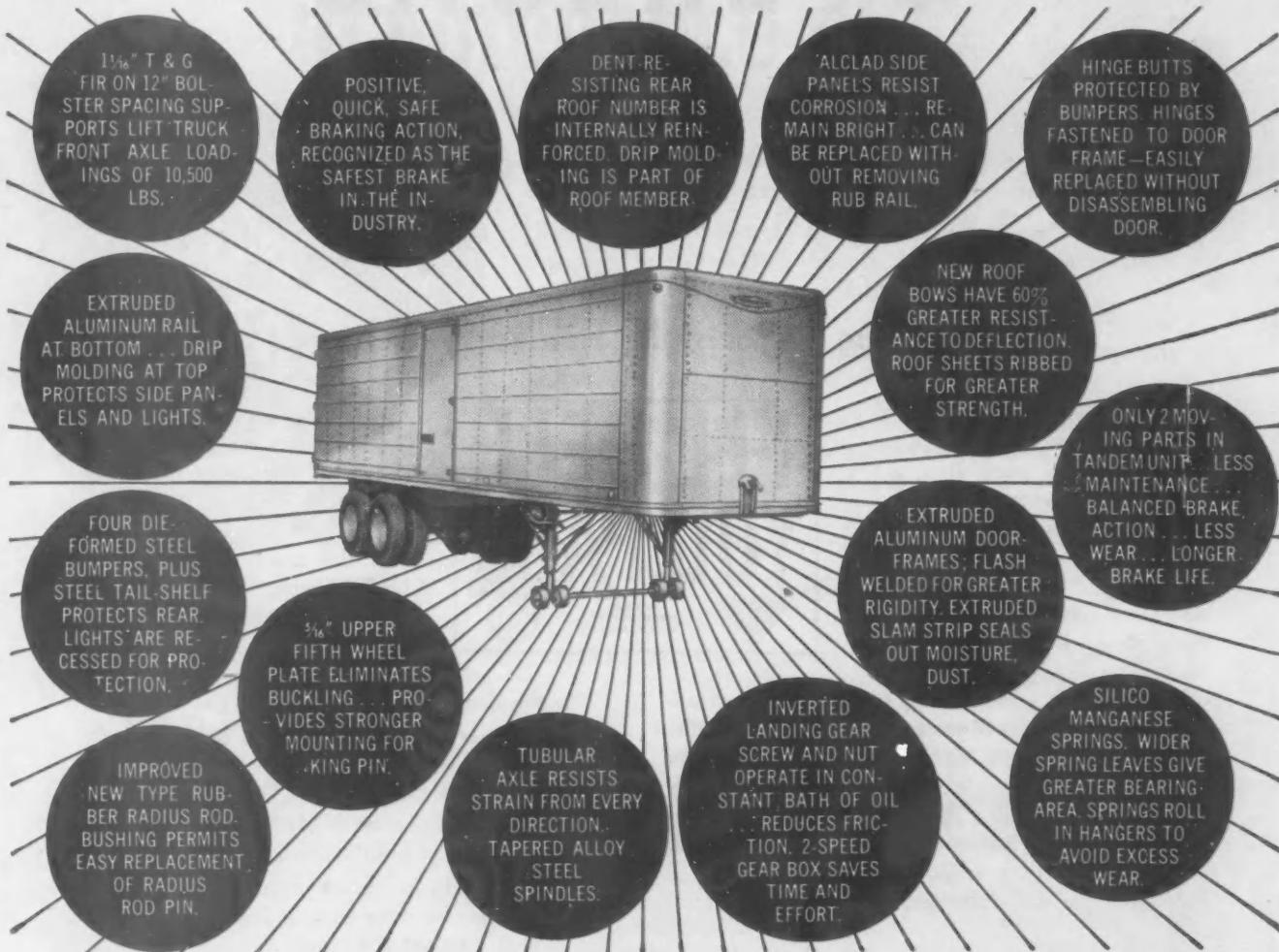
makes Bower roller bearings available through the country's largest and most complete bearing service organization. Get famous Bower *quality* . . . through famous Federal-Mogul *Service*!

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FEDERAL-MOGUL SERVICE • Division of Federal-Mogul Corporation • DETROIT 13, MICHIGAN

NEW ALUMINUM TRAILMOBILE with 15 FEATURES HAULERS WANT MOST!



NEW, Stronger, Lightweight Model A is Advance-Designed to Cut Rising Operating Costs!

Trailmobile's new aluminum trailer meets today's need for a lightweight unit that can take it! Model A is advance-designed throughout with "years-ahead" features. All vital points of strain are reinforced to take grueling 24-hour-per-day service—yet require a bare minimum of maintenance.

Check the Model A specifications above, point by

point, feature for feature. You'll find every construction feature which your own practical day-by-day experience proves is needed to meet today's hauling conditions. And only in this new Trailmobile will you find extra service so carefully engineered into the trailer—providing longer trailer life and greater safety. Get the cost-saving facts now!

WRITE TODAY FOR DETAILED INFORMATION

THE TREND IS TO
TRAILMOBILE

CINCINNATI 9, OHIO • BERKELEY 2, CALIFORNIA

The OVERLOAD

EDITORIAL COMMENT

Shall The Motorist Be Helped or Damned?

WITH the introduction of ATA's new Stop Tailgating campaign (see page 70), the truck industry enters a new and intriguing phase of public relations.

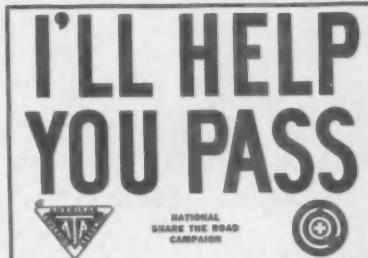
Already, recognized truck operators have taken steps to build good will with state legislatures and law enforcement officers through united efforts to wipe out overloading. Good examples of work being done include the current campaign in Michigan (see page 62) and the practice of many leading carriers, particularly in the West, to install scales (and use them) at their own terminals to insure the legality of every load.

Now the industry is out to win the affection of that venerable old character, John Q. Public, himself.

As every motorist knows, one of the biggest gripes about trucks is the problem of getting around them on hills, particularly when they are grouped bumper to bumper. Still worse is the problem of getting around them going down grade as they highball to the next hill.

As every truck operator knows, the job of getting the motorist by the truck is fraught with danger. If he permits his drivers to signal, he knows that well-established legal principles are against him. He may indeed be held liable for what occurs.

Yet with these dangers well in mind, ATA and many of its state affiliates are going ahead with the Share the Road campaign in general and the Stop Tailgating campaign in particular. These include the recommended, though not mandatory use of the decal, reproduced in miniature above.



While neither the campaign literature nor the pledges for drivers and owners make any mention of the signalling problem the little sign on the back of the truck makes it almost mandatory. For if the driver says "I'll help you pass" and doesn't, will he not make the motorist all the more unhappy?

So the question arises—why use the sign?

The answer is two-fold. First is the fact that the sign tells the motoring public that the industry is really out to lick the problem. The second and more complex reason lies in the fact that the American judicial system is built around the jury box.

If the typical juror has a prejudice against trucks (and no one can deny that he has), decisions frequently go against the truck, just because it is a truck. Claims skyrocket. But if the juror knows that the trucking industry has a concerted drive to help the motorist (i.e., the juror), his prejudice will be reduced if not wiped out.

Hence many leading truck executives and insurance company officials are beginning to argue that the *cost* of an occasional suit involving driver efforts to help the motorist pass, will be *more than offset* by increased goodwill and decreased prejudice on the part of the jury.

As of the moment this is being written, 550 companies involving 43,000 trucks have signed up with the Stop Tailgating campaign, and a majority of them are using the decals.

It's a program worth thinking about with the firing pin on both barrels.

Bart Rawson
Editor

Biggest moneysaving deal in batteries!

Goodyear's fleet battery maintenance plan



Take advantage of Goodyear's sound, experience-proved Fleet Battery Maintenance Plan and save money—real money!

Choose the right battery to fit each truck from Goodyear's complete line—and then get even longer life, even greater service with Goodyear's specially designed battery maintenance instruments and equipment. Available either on loan or at cost. Plus a complete battery inspection system and service manual—*free!*

Mail the coupon today for full information about this plan that takes very little extra time or labor, pays off immediately in extra low cost per mile.

SPECIALLY DESIGNED TO GIVE LOWER COST PER MILE



GOODYEAR BATTERY SERVICE CART. Convenient, time-saving assembly of all tools and equipment needed to water, service and analyze a battery.



GOODYEAR ALL-PURPOSE TESTER. The best portable analysis instrument for determining a battery's condition, capacity and state of wear.



GOODYEAR TRUCK BATTERY POWR SAVR. Insures safe, automatic care of idle batteries right in your own garage—batteries always at peak power.

GOOD YEAR

THE GREATEST NAME IN RUBBER

YKL
BATTERIES
—for taxis, tractors, trucks

The sooner you mail this coupon, the sooner you start saving money!

Powr Savr—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

COMMERCIAL CAR JOURNAL, July, 1951

THE GOODYEAR TIRE & RUBBER COMPANY, INC.

Dept. 729, Akron 16, Ohio

Please send me, without obligation, full information on the Goodyear Battery Maintenance Plan for Fleets.

Name.....

Firm Name.....

No. of vehicles in your fleet.....

Street Address..... Zone..... City..... State.....

Trucktor 3rd AXLES

FOR HIGH LEGAL PAYLOADS, LOW COSTS,

LESS TROUBLE WITH SHORTAGES

Up to Double the Payload

Few Extra Tires, No Extra Drivers

Less Gas, Oil, Maintenance



Trucktor Third Axles Are
"Truck-Mated"—Do Not
Alter Basic Truck Design

- Springing of the drive axle remains materially unchanged
- Springs and support points are added to take care of additional load
- The truck frame is still supported *behind* the last axle
- Few working parts and lubrication points are added

For Further Information, See Your Trucktor
Distributor, Or Write to

The TRUCKTOR Corporation

156 Wilson Ave., Newark 5, N. J.

Safety IS NO ACCIDENT



Trucktor 6-Wheel Tractor plus Semi-trailer. Without Trucktor, permissible GVW was 56,000 lbs. With Trucktor, permissible GVW is 72,000 lbs.



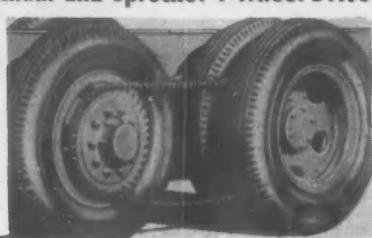
Trucktor 6-Wheeler. Without Trucktor, permissible GVW was 30,000 lbs. With Trucktor, permissible GVW is 44,000 lbs.

Exact figures depend
upon individual state
regulations.

DO YOU NEED extra legal capacity that will cost little to buy, operate, and maintain? Extra capacity that will not force you into a great dependence upon hard-to-get men, tires or general maintenance and repair items? If you do—it will pay you to investigate *Trucktor Third Axles*.

TRUCKTOR Detachable Chain-and-Sprocket 4-Wheel Drive

Makes tire chains unnecessary. When extra traction is needed, chains are slipped over sprockets (one shown) and pinned. Attached, detached quickly, simply, without removing wheel.





"SCUFFY"

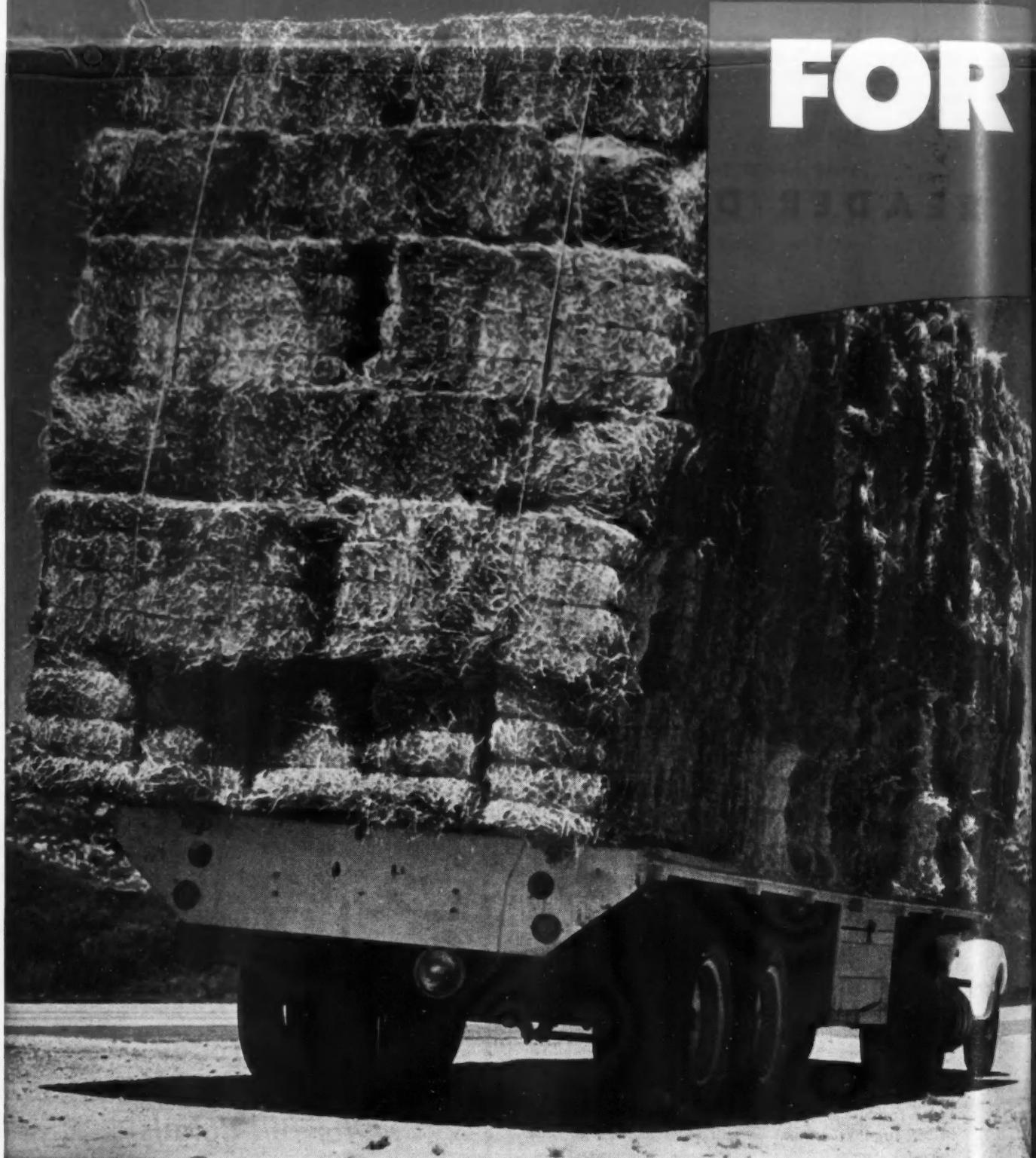
The boys called him Scuffy. They might have selected a more damning name, but certainly not a more descriptive one. For Scuffy had a yen for beating up tires. He thoroughly enjoyed slamming up to a curb and listening to the scrunching of high priced sidewall. His tires began to look like the back lawn after a clam bake, and his maintenance cost records (for axles, spindles, tie rods, wheel and wheel bearings) resembled a thermometer in a drying oven.

So the boys in the shop learned to spot the ragged spawn of this rugged driver. They would have the vulcanizer heated and the wheel alignment gages laid out waiting for him to careen in from a daily trip. Scuffy kept the shop boys on the ball—but he kept the company broke. In fact the boss was getting as hot as the tire mold . . .

The last time we heard from Scuffy he was shredding wheat in a cereal factory.

Now of course Scuffy was an exception. Most drivers need their sidewalls, and they hug the curb when they part—but they don't neck it. They know that curb riding raises hell with front ends as well as tires. They keep pressures up to recommendations and they report any break in the fabric that might become dangerous or more costly to fix later. As good citizens as well as good drivers they believe in conserving equipment.

Yes, everyone hates the waste that occurs when curbs meet sidewalls in this gutter battle. And sabotaging Scuffies must learn the word or they'll find themselves transferred to the doghouse, where they can chew up marrow bones in place of critical treads.



FOR



TEXACO

SAVINGS THAT "AIN'T HAY"

... lubricate with **TEXACO MARFAK**

For worth-while savings in maintenance costs, there's nothing like *Texaco Marfak*. In chassis bearings it clings with a bulldog grip. Heavy loads won't squeeze it out. Rough roads won't pound it out. *Texaco Marfak* lasts longer . . . seals out dirt and moisture . . . protects against wear and rust for extra hundreds of miles.

In wheel bearings, use *Texaco Marfak Heavy Duty*. The protection against dirt and moisture, wear and rust, *really lasts*. And you'll operate with greater safety because *Texaco Marfak Heavy Duty* stays *in* the bearings—off the brakes. No seasonal change is necessary.

More than 400 million
pounds of **Texaco Marfak**
have been sold

For greater engine economy, lubricate with *Texaco D-303 Motor Oil*. It's fully detergent and dispersive, keeps engines—heavy-duty gasoline or Diesel—free of carbon, gum and sludge . . . fully protected against wear. Maintenance costs come down, so does fuel consumption.

For a fleet that's tops in operating efficiency and maintenance economy, follow the recommendations of your Texaco Lubrication Engineer. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street,
New York 17, N. Y.

Lubricants and Fuels FOR THE TRUCKING INDUSTRY

CONFERENCE CORNER

PRESENTING FACTORY ENGINEERS' VIEWS ON TIMELY SUBJECTS OF INTEREST TO FLEETS

Subject: Heavy-Duty Electrical Parts

Question: Will they improve engine efficiency?

Alfred Roffman of Standard Motor Products, says . . .

In the starting-lighting-ignition system, a heavy-duty part is one in which are incorporated features that bring about what we call, "long life, peak performance." In other words, a heavy-duty electrical part is one that is better than the conventional part found in the car. Of course, everyone knows that 4-ply tires are installed as original equipment—but when anyone wants a better replacement, he will purchase 6-ply tires which give better service and longer wear.

In electrical parts, "heavy-duty" may mean, for instance, in ignition breaker points, a larger area tungsten contact among other things; in condensers, heavier insulation and better moisture proofing; in relays and voltage regulators, larger windings and sturdier construction; in dimmer switches, water-proof, 1-piece bodies, better than assembled steel stampings, which are vulnerable to water splashings. All of these features tend to prolong the life of the operating parts, resulting in lower maintenance costs.

When we came out in the early 1930's with our line of heavy-duty electrical parts for the car, many said that if heavy-duty parts were necessary, the original equipment manufacturer would have furnished them on vehicles as standard equipment. That this contention was incorrect was proven some years later when it was found that many of the ideas and features pioneered in our line were copied by original equipment manufacturers for certain applications.

Certain ignition distributors, for instance, in which ventilation is not sufficient to carry off the corrosive crankcase vapors, must have stainless steel breaker arm springs. The same idea applies to all the other features of heavy-duty electrical parts. While an absolute *must* in certain applications, the use of such parts in general has proven to many fleet operators that the slight additional base cost of heavy-duty parts has more than paid for itself in savings, in maintenance, down time, and road economy.

H. H. Birt of Delco-Remy, says . . .

In the first place, all automotive electrical systems are worked out through the mutual efforts of the vehicle and electrical equipment manufacturers. Understandably, this procedure usually involves some compromises because of cost factors and minor differences in engineering viewpoints. The end result, however, should be, and usually is, an economical and dependable system which can be expected to perform satisfactorily under the conditions in which the vehicle is expected to operate.

The electrical system, as specified by the combined efforts of the engineering staffs of the manufacturers, may or may not include "heavy-duty" units as defined by the present loose use of this term. Engineering-wise, an electrical unit is selected because of its ability to function satisfactorily (with an adequate reserve) and not because of size, weight, external appearance or any other of the many extraneous features commonly accepted as being indicative of "heavy-duty" construction. Most original equipment manufacturers would undoubtedly be happy to see the term "heavy-duty" excluded from trade usage because of the confusion which it creates, but for the same reason others without responsibility for life or performance find it a powerful sales tool.

It must be admitted that, because of the compromises already referred to, occasional instances may be found where the substitution of a different unit in an electrical system will produce a noticeable improvement. Usually, any substitute unit capable of causing a real improvement in performance or economy, however, will be found to be either more expensive or to have a greater reserve than the original equipment—thus merely reflecting the facts on which the engineers made their decision. An owner who finds that a substitution of electrical units is beneficial should make this fact known to the manufacturer of the vehicle so

(TURN TO PAGE 124, PLEASE)

CCJ REPORTS

on News of the Industry

IHC Offers Truck Saving Plan

International Harvester has announced a nation-wide truck conservation program comprising free-of-charge inspection service for the one million IHC trucks on the roads. Beginning July 1, the service will be offered for a 90-day period by the organization's 5000 sales and service outlets in the interest of keeping IHC trucks operating at peak efficiency through any emergency.

The company hopes to be better able to anticipate future new parts requirements on the basis of the information provided by the inspections. The program provides for a more uniform scheduling of service work and is designed to meet the needs of the one-truck owner as well as the large fleet owner. Owner-dealer agreements, setting forth the schedule of inspections, will be signed.

Pullman to Purchase Trailmobile

An announcement made recently by officials of Pullman, Inc., Chicago, and Trailmobile Co. of Cincinnati that negotiations have been completed for the purchase of Trailmobile by Pullman. The brief announcement indicated that details of the purchase were being worked out as well as details for the transfer to Pullman of substantially all of the Trailmobile assets. As proposed, Trailmobile will be operated as a separate member of the Pullman group, retaining its present offices and staff.

Manufacturers Attack Truman Wage Action

Various manufacturers have voiced their objection to the action of President Truman in giving the Wage Stabilization Board authority to arbitrate labor disputes. They claim that the action was taken in contravention of the clearly expressed

wishes of Congress and in gross disregard of the provisions of the Defense Production Act.

A "White Paper" has been prepared by the National Association of Manufacturers as background information for members of Congress. It traces step-by-step the developments which preceded the issuance of an Executive Order which reconstituted the tri-partite Wage Stabilization Board as an 18-member body with authority to pass, not only on wage stabilization policy and interpretation, but the entire range of labor-management disputes.

ATA Challenges Leasing Order

Following several hours of vigorous debate, the ATA Executive Committee voted recently to appeal the recent decision of the Interstate Commerce Commission in Ex Parte MC-43, concerning lease and interchange of motor vehicles (CCJ, June, pg. 98). The group charged the ATA National Truck Leasing Committee to carry the matter to the courts, if necessary.

This action, taken by a 19 to 7 vote, means ATA will not only exhaust all administrative procedure by asking I.C.C. reconsideration, but is now empowered to take the matter to a three-judge court if the I.C.C., as expected, denies further review.

Intercity Tonnage Hits New High

Motor Carriers have smashed another record in the first quarter of 1951 when intercity tonnage climbed 25 per cent above the record first quarter of 1950. American Trucking Associations report that this compared with increases of 18 per cent in the first quarter of 1950 over 1949 and 3 per cent in the first quarter of 1949 over 1948.

(TURN TO PAGE 92, PLEASE)

DATES and DOINGS

JULY 13-14—Truck-Trailer Manufacturers Assn. Membership Meeting, Edgewater Beach Hotel, Chicago, Ill.
JULY 20-21—Motor Transportation Association of South Carolina Annual Convention, Hotel Ocean Forest, Myrtle Beach, S. C.
AUG. 3-4—North Dakota Motor Carriers Assn., Inc., Convention, Patterson Hotel, Bismarck, N. D.
AUG. 5—North Dakota State Truck Roadeo, Mandan, N. D.
AUG. 13-15—Society of Automotive Engineers West Coast Meeting, Hotel Olympia, Seattle, Wash.
AUG. 25—Maine Truck Owners Assn. Third Annual Roadeo, Old Stadium Field, Portland, Maine.
SEPT. 3-5—Mississippi Motor Transport Assn. Annual Convention, Buena Vista Hotel, Biloxi, Miss.
SEPT. 10-14—Fleet Supervisor Training Course, Penn State Campus, State College, Pa.
SEPT. 12-14—National Assn. of Motor Bus Operators 21st Annual Meeting, Drake Hotel, Chicago, Ill.
SEPT. 13-14—American Society of Traffic & Transportation, Inc., First Annual Conference & Seminar, Northwestern University, Evanston, Ill.
SEPT. 13-14—Tennessee Motor Transport Assn. Annual Convention, Chattanooga, Tenn.
SEPT. 14-15—Virginia Highway Users Assn., Annual Convention, The Greenbrier, White Sulphur Springs, W. Va.
SEPT. 14-15—Indiana Motor Truck Assn. Annual Convention, The French Lick Springs Hotel, French Lick, Indiana.
SEPT. 17-18—Michigan Trucking Assn. Annual Convention, Grand Hotel, Mackinac Island, Mich.

SEPT. 17-21—Fleet Supervisor Training Course, Ohio State, Columbus, Ohio
SEPT. 17-21—Industrial Safety Institute, Penn State Campus, State College, Pa.
SEPT. 19—Massachusetts Motor Truck Assn. Annual Convention, Somerset Hotel, Boston, Mass.
SEPT. 20-22—Idaho Motor Transport Assn. Annual Convention, Lewis & Clark Hotel, Lewiston, Idaho
SEPT. 24-26—Annual Convention and Supplier's Exhibit of National Truck Body Manufacturers and Distributors Assn., Haddon Hall, Atlantic City, N. J.
SEPT. 24-25—Fleet Supervisors Training Course, University of Kansas (Ext.) Wichita, Kansas.
SEPT. 24-25—Fleet Supervisors Training Course, Purdue University, Lafayette, Indiana.
OCT. 1-2—North Carolina Motor Carriers Assn. Annual Convention, Carolina Hotel, Pinehurst, N. C.
OCT. 1-4—American Transit Assn. Annual Meeting, Cincinnati, Ohio, Hotel Netherlands Plaza.
OCT. 1-5—Fleet Supervisors Training Course, University of Minnesota, Minneapolis, Minn.
OCT. 22-27—American Trucking Assns. Annual Convention, Stevens Hotel, Chicago, Ill.
OCT. 29-30—Society of Automotive Engineers Diesel Engine Meeting, Drake Hotel, Chicago, Ill.
OCT. 29-31—Society of Automotive Engineers Transportation Meeting, Knickerbocker Hotel, Chicago, Ill.
OCT. 31-NOV. 1—Society of Automotive Engineers Fuels & Lubricants Meeting, Drake Hotel, Chicago, Ill.

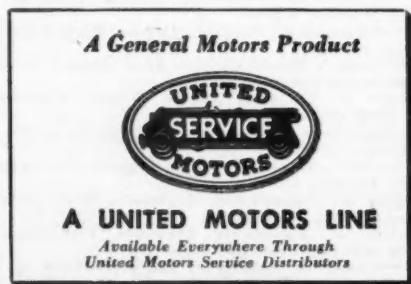


Made for a particular brake on your vehicle!

For long, trouble-free, even-wearing, economical brake mileage, brake linings *must* be designed, compounded and processed to serve on *particular* brakes of *particular* vehicles . . . *your* vehicles. And that's the Inland way. That's what you get in Inlite Brake Linings!

They're *tailored* for every vehicle, from light passenger and delivery cars to the heaviest trucks. You'll save time, save trouble, cut the cost of vehicle operation by using one-quality, top-quality Inlite, tested in General Motors Research Laboratories and on the Proving Ground. *Insist* on Inlite . . . *always*!

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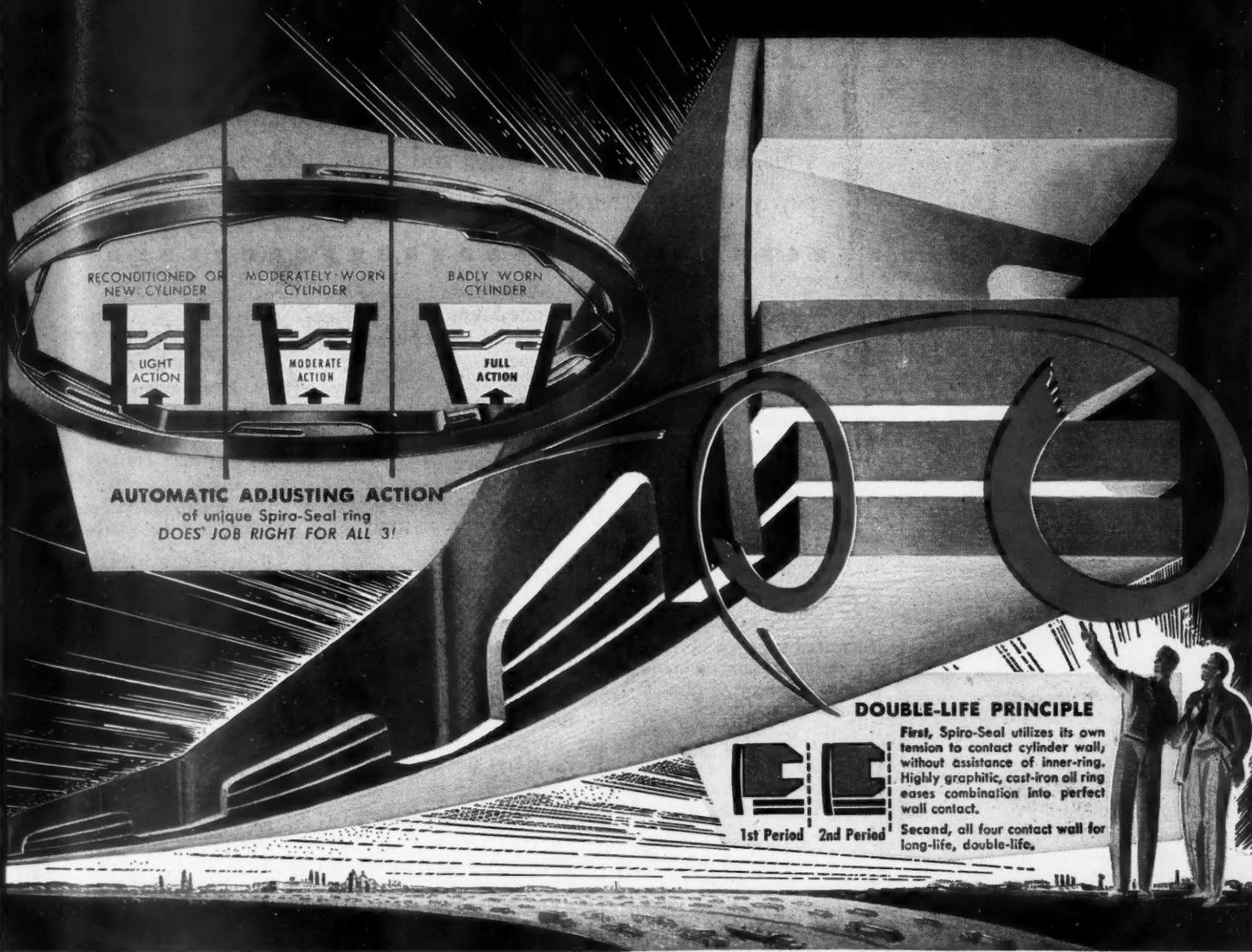


INLITE

Brake Linings

COMMERCIAL CAR JOURNAL, July, 1951

2 Unique Ramco Principles:



2 important reasons why:

RAMCO 10^{up} CURBS WEAR!



It is a combination of distinctive principles like the two shown here that make Ramco 10-Up the truly all-purpose rings for every job, Re-Bore or Re-Ring. Principles like these make Ramco 10-Up Rings look different and perform differently from conventional rings.

Ramco 10-Up Rings are different in performance in that they control oil primarily through stabilization rather than pressure. That's why Ramco 10-Up Rings work with equal satisfaction in both new, straight wall cylinders or in worn, tapered cylinders. That's why they are truly all-purpose rings, insuring adequate wall protection and elimination of "Rocking Chair Action."

Send for latest Catalog of Ramco Heavy-Duty Piston Rings.

RAMSEY CORPORATION, St. Louis, Missouri

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1951
Ramco 10-Up Heavy-Duty Piston Rings are especially designed for Fleet Installations . . . Re-Ring or Re-Bore!

profits from inflation

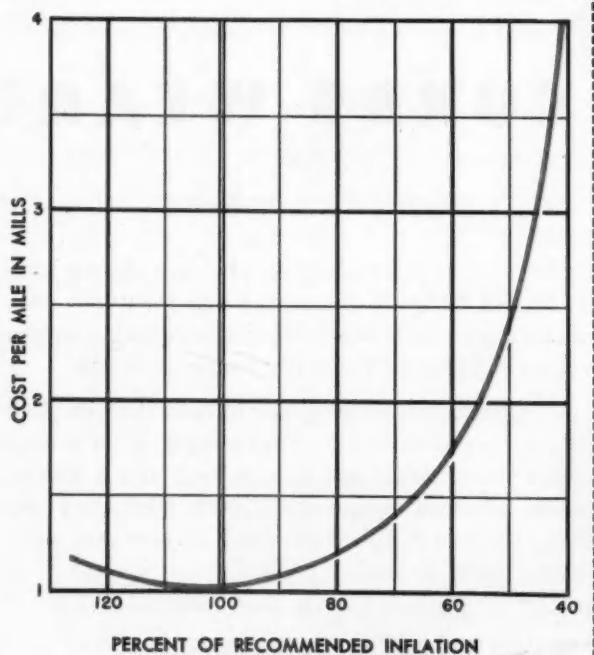
Free as the air you breathe, is the air you pump into your tires . . . done regularly, and done right, it can pay you some tremendous profits. Here is:

why (inflation is so important)

OVERINFLATION - UNDERINFLATION

IMMEDIATE EFFECTS		DAMAGING TENDENCIES	OPERATING RESULTS	EFFECTS ON OPERATION
Excessive Flexing		Generates excess heat Weakens cords and adhesion Excessive bead action	Heat blowouts Scorched tires Weakened cords and plies Broken cords Carcass separations Bead failures Tube pinches	Tires ruined or mileage reduced No recappable carcasses Road breakdowns
Buckles Center of Tread		Prevents full contact of tread on road	Cupping and irregular wear Excessive wear on tread shoulders Hard steering	Damage to wheel bearings and steering mechanism Reduced tire mileage
Stretches tire		Increases tire growth Excessive tension on cords Strains adhesion of plies, breakers and tread Prevents full contact of bead	Tread cracking Bruise breaks Carcass separations Bead failures, rim and lock ring damage Punctures and blowouts	Tires ruined or mileage reduced No recappable carcasses
Stiffens tire		Expands cuts and breaks Impairs cushioning action	Bruise breaks Damage to truck and load	Tires ruined or mileage reduced No recappable carcasses Damage to truck parts
Rounds tread surface		Expands cuts and breaks Reduces contact of tread with road	Concentrates wear on center of tread Reduced traction and braking efficiency	Reduced tire mileage Accident hazard

what (improper inflation costs you)



and how (you can save your dollars)

Many top-notch fleets aim at "a mill a mile" for tire costs. By looking at this graph, you can see that if all other conditions are the same, tire costs zoom to 4 mills per mile when tires are only 40% inflated. This means that you are only getting 1/4th service. In dollars and cents, if a full set of tires on a typical ten wheel job costs you about \$1500.00 and you find your tires 40% inflated, you could be losing as much as \$1125.00 worth of service from your tires.

Inflation is only one of many tire-saving problems your Lee Truck Tire dealer can help you solve. Write to us today for his name and address.



LEE RUBBER & TIRE CORPORATION, CONSHOHOCKEN, PA.

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

Production—Anybody's Guess

With the truck production outlook more confused than at any time since World War II, no one can make an intelligent guess about output during the next couple of months. At press time, two major obstacles stood in the way of any clear forecast. One was the chaos caused by continual government fumbling with the truck program. As late as June 15, NPA had not told the industry what it could build in the third quarter or whether there would be any restrictions at all. Truck builders had assumed that they would be put under CMP, but there still was no assurance that such would be the case. As a result, they were going ahead with July schedules in line with materials available.

The second big problem was availability of steel, particularly alloys required for axles. One large supplier said it would be lucky to build 50 per cent of its schedule in July and August. The general outlook is for great turmoil for the next 90 days, with possibly the situation straightening out sometime in September. General thinking now is that light trucks will be hardest hit, which would affect total industry output much more severely because of the greater percentage of lighter units now being built. Currently the industry is about 200,000 units ahead of the same period last year, but it appears extremely doubtful that that edge can be held.

Clarification on Hypoids

Our item last month about makers of large trucks switching from hypoid to spiral bevel rear axles because of the alloy steel situation has drawn a vigorous dissent from some members of the industry. We did not intend to imply that there was to be a general shift in the industry, but only that two or three companies had either switched to spiral bevel or are staying with it when a change to hypoid had been planned and only in axles with a 15 in. or larger ring gear. Further information shows definitely that the bulk of the industry *is staying with hypoid*. There are two schools of thought on the matter—one holding that better results can be had with the leaner alloys in very large axles by using spiral bevel gearing, and the other side saying that spiral bevel construction requires an equally high grade of alloy as hypoid gearing.

Better Uniformity for Diesel Fuels

Both the Navy and Ethyl Corp. have experimental programs under way to test the value of amyl nitrate for improving the cetane number of diesel fuel. Ethyl has no plans now for commercial sale of the additive, and future plans will have to wait on results of much more complete tests. An important advantage that could be realized from such a successful additive would

be standardization of cetane numbers for fuel across the country. It now varies as much as 15 cetane numbers, and engines must be designed to operate with the lowest cetane number fuel available. If a uniform quality diesel fuel were assured, engine designers could build engines for whatever standard cetane fuel would be provided by the oil industry. It is also understood that such an additive would permit use of more catalytically cracked distillates which are inherently lower in cetane rating than straight run fuels, but which are not so prone to wax deposits at low temperatures.

GM to Test Turbine

Although still convinced that the gas turbine for commercial truck use will not come for years, if at all, GM is building an experimental 300 hp turbine to be installed in a Greyhound bus. GM does not expect the unit to be practical, but in line with its policy of exploring long range developments in motor transportation, will carry on the experiments. High original cost and excessive fuel consumption are the two major problems to be overcome before gas turbines will be commercially feasible, according to C. N. McCuen, head of GM Research. Volume of exhaust, rather than temperature, also is a problem. The turbine under consideration, will require three sq. ft. of exhaust area. Temperatures, however, would be about 300°, not too different from those in current engines. Fuel consumption is expected to be about 4 mpg.

Dodge and Ford Up Prices; IHC Down

Dodge announced an increase in truck prices on June 15, followed on June 20 by Ford. At press time, GM had been making a price study but had not indicated an intended change in existing prices. Meanwhile International Harvester reduced price \$45 to \$145 on its light truck line only, the L-110 to L-160 models.

The Dodge price jump ranged from 1½ to approximately 6 per cent on representative volume models. At the same time it made price adjustments on a long list of equipment including tire equipment, with about half the items being rolled back and half increased in price. Typical Dodge increases are: ½-ton, \$71.59 or 5.5 per cent; 1-ton stake body, chassis and cab, 126 in. w.b., \$44.09 or 2.72 per cent; and 2½-ton c.o.e. 131 in. w.b. \$83.17 or 3.04 per cent.

The Ford increase covers all truck models, with an average jump of 3.8 per cent. The range is from \$10.50 on the parcel delivery model to \$87.75 on the F-6 stake on 110 in. w.b. A revision of prices on Ford service parts and accessories has resulted in a net reduction of about 1 per cent.

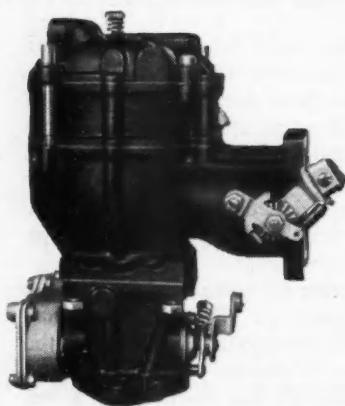
(TURN TO PAGE 173, PLEASE)

Does He Knock or Boost Your Truck?



IT ALL DEPENDS
ON PERFORMANCE
and
PERFORMANCE
DEPENDS ON

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CARBURETORS



What drivers and operators say about your vehicles has a mighty important bearing on the future of your business. So it is imperative that every component be selected on the basis of its contribution to lasting, satisfactory performance. In the field of heavy duty carburetion Zenith* has long been recognized as the engineer's choice for quality performance under all operating conditions. You can be sure that manufacturers whose vehicles are Zenith equipped measure carburetor costs in lasting terms rather than initial expense. Zenith's rugged construction, strong idling, freedom from stalling and obedient response to every power demand goes a long way toward building owner good will. That's why cost conscious operators and experienced drivers prefer Zenith equipped vehicles.

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AVIATION CORPORATION



WASHINGTON RUNAROUND

by KARL RANNELLS

Washington Correspondent

All-Out CMP by End of Year

There is no longer doubt that practically all hard goods production, defense and civilian, will be getting CMP allocations before the end of this year. With the July 1 starting date for CMP at hand, it was apparent that an open-end (selected industries) CMP (controlled-materials plan) would not work. NPA was leaning to the belief that allotment of the three CMP materials (steel, copper and aluminum) would have to be made to all manufacturers whether or not they were engaged in defense and related work.

For example, it was first thought that only half of the steel supply would have to be controlled. Then help had to be promised truck makers, parts manufacturers and so on, including an agreement to include passenger-car manufacturers so that the auto industry would be included under CMP during the last quarter.

The net result is that all users of steel, copper, and aluminum will report their requirements for the fourth quarter not later than August 1. NPA at press time denied that the final decision had been made but the answer was apparent—an all-out CMP before the end of 1951.

Corporate Personal Taxes Up 5 to 12½%

The Senate hopes to trim perhaps \$1 billion from the House-passed tax bill. But in the end, both fleet operators and drivers will have chunks whittled from their incomes. The way it stands, corporation taxes are to be increased by 5 percentage points while individual income levies are to be upped some 12.5 per cent. Corporates are to be retroactive to Jan. 1 of this year but other levies are scheduled to begin as of Sept. 1. Here's the outlook in brief, based on the House bill:

Trucks—Manufacturers' excise increased from 5 to 8 per cent.

Diesel Fuel—A 2 cents-a-gallon retail tax scheduled on fuel sold to operators of diesel-powered highway vehicles.

Gasoline—Tax to be increased from the present federal rate of 1.5 to 2 cents-a-gallon. A floor stock tax of one-half cent per gallon to be put on wholesalers' stocks on the date of the increase.

Automobiles and Motorcycles—Manufacturers' present 7 per cent would be boosted to 10 per cent but house trailers would be exempt from the increase.

Parts and Accessories—Present rate of 5 per cent on new products would be raised to 8 per cent. No tax on fair market value of trade-ins on rebuilt goods, the tax to be imposed on the cash difference only.

OPS vs Rate Structures

Chances are that OPS (Office of Price Stabilization) will get no tailor-made legislation which would require regulated motor carriers to file 30-day notices of proposed rate increases with the pricing agency.

The OPS has no jurisdiction over the rates charged by the common carriers. Its only recourse is to complain to the ICC or various state commissions, if it believes that rates are upsetting the stabilization program, try to have pressure brought upon carriers by these agencies.

Two bills, S. 1397 and H. R. 3871, have been introduced in Congress to require the filing of such notices by the carriers. But they are tied up in committees where some members are cool. ATA, testifying on extension of the Defense Production Act, came out in flat opposition to mandatory filing of such notices.

It is probable that OPS will have to be satisfied with the agreement reached with its common carriers industry advisory committee. This was to the effect that the carriers would try to keep the pricing agency informed concerning rate changes—on a voluntary basis. The advisory committee has also gone on record with OPS as being in favor of exempting truck-leasing, involving owner-drivers, from the general ceiling price regulation (GCPR).

Lighter Bodies Use Less Steel

Somewhat lighter but just as sturdy truck bodies are in the offing. Builders report to NPA that in an effort to conserve steel, they are using thinner gage steel sheet and plate, thereby cutting down needs by 15 per cent. But improved materials are keeping the bodies as strong as ever, they tell NPA.

In the meantime, NPA tells the industry's advisory committee that with such cooperation on the part of the body-makers, there seems to be enough steel in sight to provide adequate truck body production for both defense and civilian needs. Nor does the agency at the moment expect it to become necessary to impose production limitations or quotas. Nevertheless, NPA has such an order already drafted—just in case.

Insurance Increase Postponed

Effective date of the recently ordered increase in public liability insurance for motor carriers has been postponed from June 22 until Oct. 31. The reason was that neither the ICC nor the insurance companies would have time enough to complete the paper work essential to making the change-over.

(TURN TO PAGE 108, PLEASE)



Waitress in Diner: "Whaddie ye have, Mack?"

Truck Driver: "I feel like a sandwich."

Waitress: "Just give me your order, and no wise cracks. Can I help it if the joint is crowded?"

CCJ

Wife: "How many pounds of fish was it you caught on Saturday, Harry?"

Brake Specialist: "Ten, darling."

Wife: "I thought so. That fish market has made a mistake again. They've charged us for fourteen pounds."

CCJ

Garage Operator: "Who told you that you could neglect your office duties just because I kissed you once in a while?"

Blonde Steno: "My Lawyer!"

CCJ

"The higher one gets in the evening, the lower he feels in the morning."

CCJ

The sleek, powerful, shiny red tractor with its long stainless steel trailer pulled up and stopped for a red light. The nattily uniformed young driver at the wheel, leaned his head out the window and spoke to the trim young blonde on the sidewalk:

"Can I offer you a lift?"

"No, thank you," the cutie returned coolly.

"But I am going north and so are you," coaxed the handsome young truck driver. "Why not ride?"

"Are you going all the way?" asked the blonde, pausing.

"You bet I am," said the driver, hopefully.

"Then you can tell the Eskimos that I am being a good girl and not letting fresh strangers pick me up on the street. Good-bye."

CCJ

ROAD MECHANIC: "I'LL HAVE SOME LAMB CHOPS AND HAVE THEM LEAN."

CUTE WAITRESS: "FORWARD OR BACKWARD, SIR?"

CCJ

Shop Foreman's Wife: "How is your husband getting on with his golf?"

Battery Mfrs. Wife: "Very well, indeed. The children are allowed to watch him now."

COMMERCIAL CAR JOURNAL, July, 1951



"Whatta you say we take the scenic route?"

SECRETARY: "WHAT DO YOU THINK OF MY NEW BLOUSE?"

OFFICE MANAGER: "IT GIVES ME THE PEEPS."

CCJ

"Fun is like insurance. The older you get the more it costs."

CCJ

Weavin' Willie, our City Driver, says that he had his best girl out in a taxi the other night and when he proposed to her in the moonlight, she turned him down. Willie says he threatened to drive her over the cliff in the taxi if she didn't say yes, but she just laughed. Willie says she knew the cab was yellow.

CCJ

Freight Claim Clerk: "Last night while I was sleeping, a spider ran up my arm."

Freight Rate Clerk: "Pshaw, that's nothing. Yesterday, I had a sewing machine run up the seam of my trousers."

CCJ

STENO SUE: "DO YOU SHRINK FROM KISSING?"

STENO LOU: "I'D BE NOTHING BUT SKIN AND BONES IF I DID."

CCJ

The Safety Supervisor pulled up in front of a ram-shackle cabin on the side of a Tennessee hill and inquired of the man sitting on the front porch: "Can you tell me if there is a fellow named 'Big Joe' who lives near here?"

"Nope," was the hillbilly's laconic answer.

"Well, where can I find his neighbor, 'Long Sam'?" asked the safety man.

"I'm 'Long Sam'!"

"But they told me that 'Big Joe' lived within gunshot of you?"

"That's right," drawled the mountaineer. "He did!"

CCJ

The long distance van driver was having trouble with his motor on a stretch of highway devoid of all signs of a garage. Finally, he could make it no further so he scoured the neighborhood in the effort to find someone sufficiently versed in automotive mechanics to correct his trouble. At last he located an itinerant mechanic, who agreed to make the necessary repairs for ten dollars. Leaving the scene to hunt a bite to eat, the driver returned later to find the itinerant mechanic lying in the shade enjoying himself while another man was doing the work on his truck.

"What's the idea?" asked the van driver. "I thought I hired you to do this job."

"You did, but I sublet the work for twelve dollars," was the reply.

"But I'm only paying you ten dollars," said the puzzled driver. "You're losing two dollars on the deal."

"I know," drawled the lazy one, "but it's worth something to be the boss."

CCJ

A Freight Checker who was about to be married for the third time, and whose bride-to-be had also been at the altar before wrote at the bottom of the wedding invitations: "Don't fail to come. This is no amateur performance."

CCJ

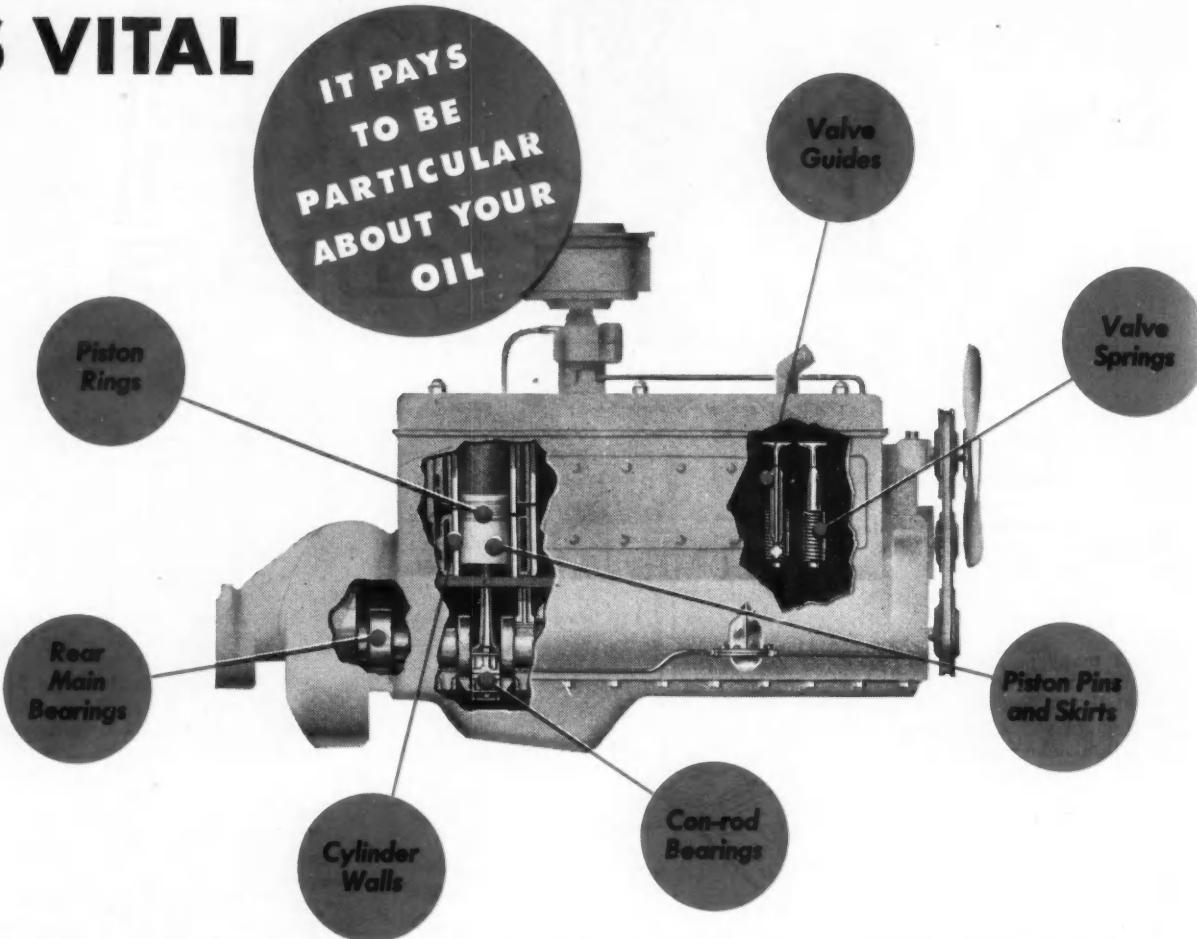
Auto Parts Clerk: "Your daughter has promised to become my wife."

Girl's Pappy: "Well, don't come to me for sympathy. You might know something would happen to you, hanging around here five nights a week."

CCJ

Resume Work

WHERE PROTECTION IS VITAL



From springs to rings, from pins to pistons . . . over 300 parts in every engine depend *entirely* upon a microscopic film of oil for protection against excessive wear, corrosive acids, heat, friction, sludge and varnish deposits.

THE WOLF'S HEAD PLAN . . . *superior lubrication and sound maintenance practices . . . will help you increase the life of your vehicles and reduce your operating and maintenance costs.*

WOLF'S HEAD MOTOR OIL—100% Pure Pennsylvania, "Premium Grade"—gives *extra* protection. Its rich, tough, full-bodied film is highly resistant to corrosion, oxidation, sludging—holds oil consumption and engine wear to a minimum.

WOLF'S HEAD HEAVY DUTY MOTOR OIL—100% Pure Pennsylvania—meets *every* requirement for severe, heavy duty service: strong, tough film—excellent detergency—unexcelled dispersancy—superior stability—maximum resistance to oxidation.

WOLF'S HEAD LABORATORY CONTROL SERVICE PLAN, available to you at no charge, helps establish correct drain periods, sound maintenance practices and efficient operating schedules for each vehicle.

Free! "Rules-of-the-Road" Folder with traffic rules, speed laws, driving information for all states. Give them to your drivers. Copies sent on request.



Wolf's Head Oil Refining Co., Inc., Oil City, Pa., New York 10, N. Y.

WOLF'S HEAD

MOTOR OIL AND LUBES

100% Pure Pennsylvania
"Premium Grade"



Member, Penna. Grade
Crude Oil Association

In planning our new maintenance system, our primary goal was to achieve maximum utilization of line haul equipment and shop personnel. The problem resolved itself into three major phases: (1) the location of proper shop facilities; (2) establishment of rigid inspection routines, and (3) the handling of necessary records. As briefly as possible, I shall touch on each one of these major phases.

But before doing so, let me point out a few of the end results. If the reader finds himself asking if unit replacement at fixed mileage intervals, for instance, is throwing money away; or if the complexity of our record system seems out of balance from a cost standpoint, I urge that he keep these points in mind:

(1) Under our present maintenance procedures no more than three tractors are ever normally out of service for a period of more than 11 hours (the time required for the D-check).

(2) We have stepped up our mileage between overhauls from 70,000 in 1948 to 151,200 in 1951.

(3) Utilization of our line haul power equipment—based on 24 hours a day, 365 days a year—averages 550 miles per day. This compares with 300 miles per day in 1948.

(4) While our power equipment rolls approximately 3,000,000 miles per month (1951), we have reduced premature engine failure from 25 per month in 1948 to 1 per month in 1951. Along with it, we have reduced road calls to one-third of the previous figure.

(5) In spite of our seemingly fancy shop, our complex record system and our fixed mileage unit replacement plan, we have succeeded in reducing our over-all maintenance costs for both parts and labor by 14 per cent in the 2½ years in which our system has been in operation.

Key Shop at Denver

SINCE Denver is approximately the midway point on the system between West Coast points and the Kansas City-Chicago area, we built our new shop in Denver and plan to do all our major work there. We have secondary service shops at the end stations and an enroute service shop at Salt Lake City. In order to achieve our goal of maximum utilization of

PM at P·I·E



Western fleet's extraordinary preventive maintenance routine doubles overhaul life; boosts utilization to 550 miles a day

By A. L. Springer.

Superintendent of Fleet Maintenance, Pacific Intermountain Express, Denver, Colo.

BIG IDEAS CAN FIT SMALL PLANS

In 1948, PIE built a new and magnificently-equipped service and overhaul shop at Denver, approximately the mid-way point on its 2200-mile haul between Chicago and the West Coast. At the same time, the company began reorganizing its maintenance procedures, frankly patterned on airline techniques, toward an ultimate goal of fixed inspection and unit replacement periods. Today that goal has been reached, and with remarkable results.

CCJ is proud to present the accompanying story by PIE's Superintendent of Fleet

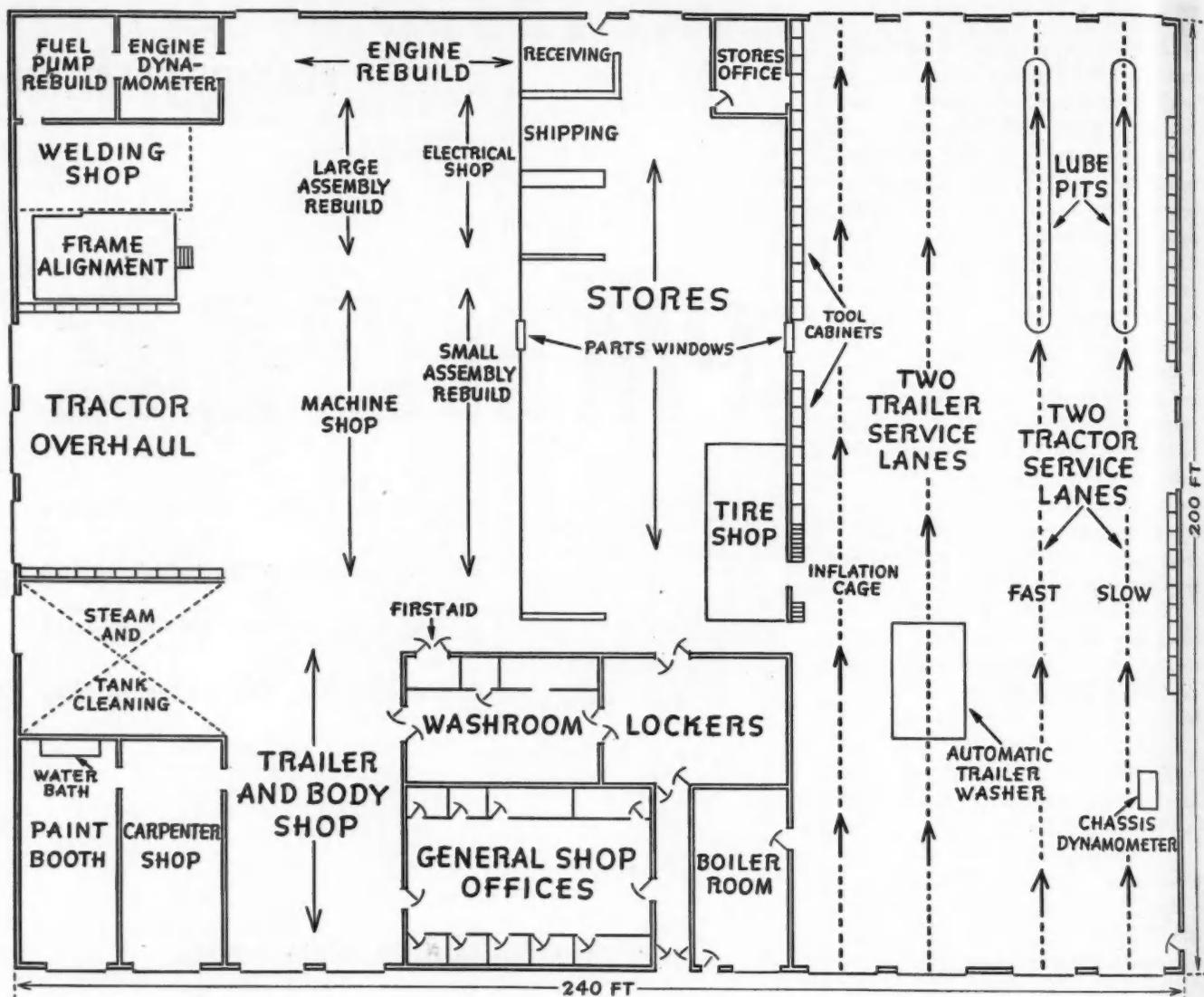
Maintenance, A. L. Springer, for it represents the only fleet operation we know of where units are replaced on a fixed mileage schedule without regard to apparent condition. "Too expensive?" Read Springer's answer in the opening paragraphs.

While the story concerns only the maintenance of line-haul equipment—some 200 tandem axle tractors with either Cummins NH8600 or GM 71 series engines, averaging 3,000,000 miles a month—its principles, with suitable modifications, can be applied to any fleet operation . . . The Editors.

each vehicle, it was decided that no assemblies would be worked on while installed in equipment and that all major overhauls, including unit rebuilds, would be done at the Denver shop.

At the suggestion of COMMERCIAL CAR JOURNAL editors, I am relying chiefly on the accompanying floor plan, illustrations and captions to describe the physical facilities of the

Denver shop. Suffice it to say that it is complete in nearly every imaginable respect. It includes radiant floor heat, engine and chassis dynamometers, and complete magniflux equipment, all of which we put to maximum usage. It is also completely departmentalized from the inspection areas at the far right to the complete overhaul facilities at the far left. I might also add that only the major line haul



PM at P.I.E... Continued

PIE's super shop runs the gamut from tractor overhaul and rebuild facilities at left to high speed trailer and tractor inspection lanes at right. Stores section in center serves either with facility

equipment comes through the Denver shop. Each of the secondary shops, including a separate facility at Denver itself, handle routine servicing of local pick-up equipment.

Inspection Routines

OUR service and inspection routine begins with an A-check at from 500 to 750 miles and ends with a complete tractor overhaul at 151,200 miles.

Let's stop on that one for a moment. Why 151,200 miles? The answer is two fold. The exact figure is merely the result of a multiple build-up of inspection routines at

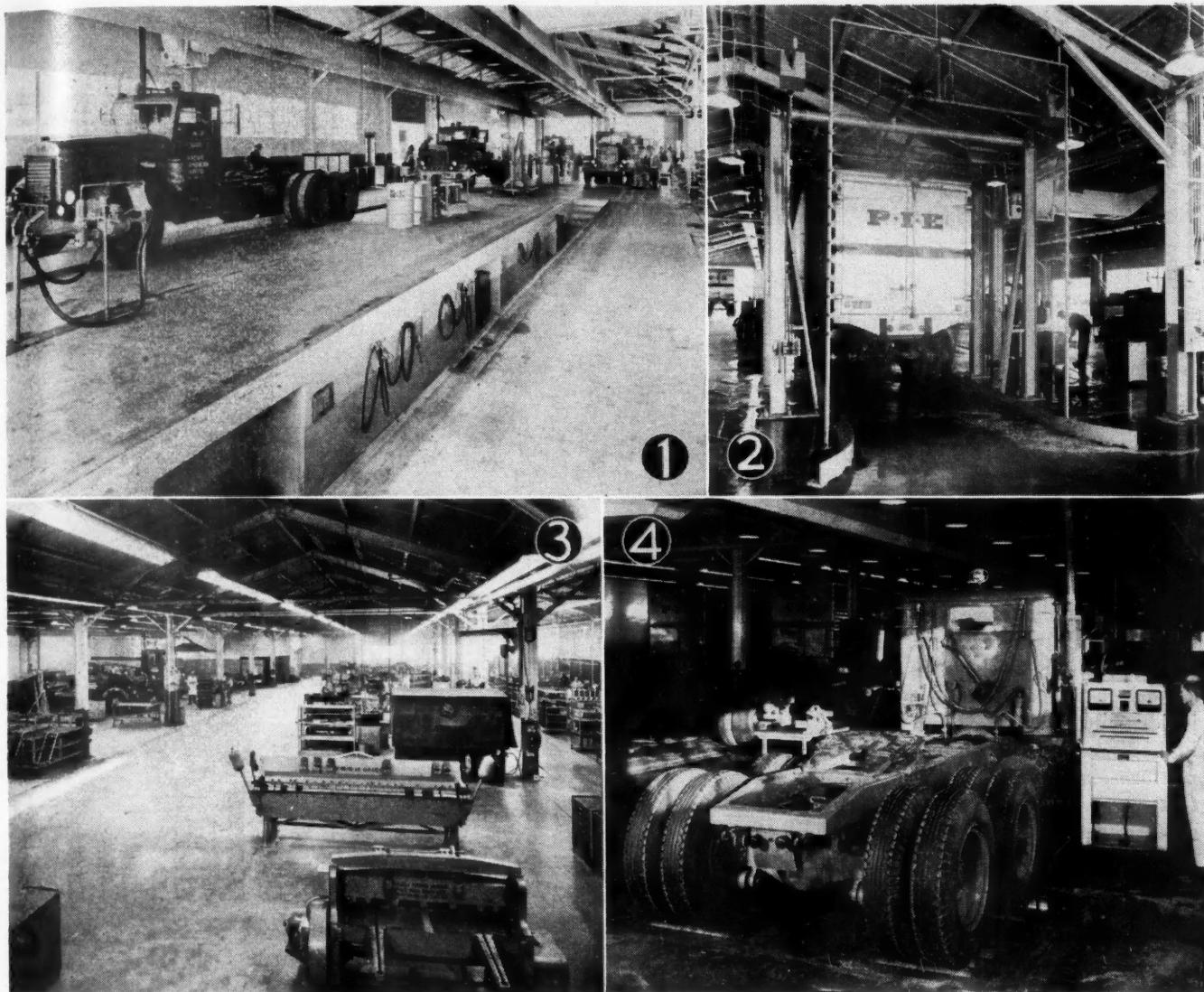
every 1400-mile intervals as indicated by the schedule shown in Fig. 1, page 160. The 1400-mile figure itself was developed as convenient average of typical one-way or round trip hauls putting line haul equipment in one of our shops at that mileage interval.

But the real significance of the 151,200-mile figure is that it represents an extension of life expectancy based on careful inspections routines, plus thorough overhaul procedures. In 1948 we were doing major overhauls at 70,000 miles. Gradually we pushed that figure upward until it reached the present figure. Eventually, we hope to push it still further

—perhaps to the bottom of the fifth cycle (see Fig. 1) which would bring the total to 201,600 miles.

While our early or low mileage inspections follow more or less routine lines, the major inspections with required replacements of units at fixed mileages are believed unique in the industry. Checks A through C-1, incidentally, can be performed at any of the shops, including Denver, while checks C-2 through E are scheduled only at the Denver shop.

The A-check at 500 to 750 miles consists largely of a visual inspection on a daily trip basis. It includes a visual inspection of brakes, lights and



1. Looking down tractor service lanes from exit side (see floor plan opposite). Fast lane at right must keep moving but tractors can be shifted to slow lane at any point when additional

work is indicated. All tractors are steamed cleaned after every run and before inspections. 2. Trailer lanes include automatic washer, also used after every trip. 3. General shop

area looking from trailer overhaul. Machine shop in center, assembly rebuilds at right, tractor overhaul at far left. 4. Chassis dynamometer in slow lane includes idler rollers

safety equipment by both the driver and shop personnel and requires about 15 minutes of shop man-hours.

The B-check, at 2800 miles, includes cab inspection and cleaning, complete steam cleaning of tractor, visual inspection of all major components and primary lubrication. While I must of necessity hurry over these processes, I might add that the B-inspection routine occupies four single-spaced typewritten pages in our manual and provides a very thorough inspection of the entire vehicle. It requires about 2½ man-hours.

The C-inspection at 5600 miles includes a repeat of the B-check, plus

cleaning of fuel pump screens and battery terminals, inspection of generators and steering assembly, engine oil change and filter change, plus air cleaner cleaning and refill. Average time is 3 man-hours.

The C-1 check, at 16,800 miles, includes B and C inspections, plus valve and injector adjustment, examination of cylinder ports on 2-cycle engines and removal of cylinder liners for cleaning, if necessary; adjusting air compressor unloading valve, complete replacement of engine air cleaner assembly, and test on chassis dynamometer. This inspection requires approximately 3½ man-hours.

At double this mileage, or 33,600 miles, the C-2 inspection is performed and it should be remembered that all C-2 or higher inspections are performed at Denver. The C-2 check includes all preceding checks, plus governor setting, complete wheel alignment, complete electrical inspection, including regulator setting and a radiator flush, refilling with 14 oz. of soluble oil solution. This inspection requires approximately 7 man-hours.

The D-check at 67,200 miles, includes all preceding inspections, plus replacement of cylinder head assemblies (on Cummins engines) replacement of

(TURN TO PAGE 160, PLEASE)

**Between \$130,000 and \$150,000 annual saving
is anticipated by several mechanical changes
in engine, carburetor and rear axle of this
fleet's vehicles after its fuel economy study**

HAVING, not too long ago, emerged from a period where fuel economy was of secondary importance to fuel availability, it is not surprising that our thinking relative to maximum fuel economy should have suffered considerable deterioration.

Despite the fact we seem to be headed again for another similar period of fuel shortage, we cannot afford to ignore any possibility for increasing our fuel miles per gallon.

Fuel cost (including taxes, which incidentally are 10½ cents per gal in Louisiana) being second only to platform labor, make it imperative that we do everything possible to capture that so called elusive 1/10th of a mile per gal, which can do so much towards lowering operation costs.

Prior to the war, we made several attempts to increase our fuel mileage but with very little success. One of the chief difficulties which we experienced in our previous attempts was the lack of ability to determine accurately the effect of various changes on miles per gal.

The many variables which enter into regular scheduled bus operation, such as changing traffic conditions, variation in stops per mile and loads carried, as well as difference in operator practices, make it impossible to test accurately a small number of buses in a short time in regular scheduled service.

How Tests Were Established

OUR first job, therefore, was that of establishing a test procedure which would eliminate as many variables as possible and still give an accurate indication of the effect any given change would have on miles per gal in regularly scheduled service.

Considerable time was spent riding buses observing operator practices,



Hatch cover is removed to show auxiliary fuel line to carburetor. The test can and platform balance are on floor

New Orleans'

By R. W. Ziifle, Sr. Railway Betterment Engineer

New Orleans Public Service, Inc., New Orleans, La.

vehicle speed and traffic conditions. From these observations two conclusions were reached:

1. Our operators used primarily only two throttle positions; wide open, and closed.

2. The performance ability of our vehicles was far in excess of that required to operate the fastest schedules possible commensurate with existing traffic conditions.

These conclusions convinced us that the next step was one of tailoring the performance of our vehicles to schedule requirements and at the same time making necessary changes in compression ratios, rear axle ratios and carburetion to obtain maximum fuel economy at wide open throttle.

Performance Standard Established
FIRST, we established from our actual operating data that the performance of our vehicles should be sufficient to maintain a 13.4 mph schedule speed when making 7½ stops per mile of approximately 10-second duration.

Using this performance as a standard, we set about to establish a test course which would permit us to operate a vehicle at wide open throttle between stops without being subjected to much interference from other vehicular traffic.

Such a course we found on our lake-front drive. Street light posts approximately 700 ft apart were used to designate stopping points. The



Fifth wheel mounted on front step was used to measure speed acceleration and stopping distance in tests over routes

Bob Züffle, left, handles stop watch as Ed Shogan, junior engineer, takes the wheel on test checking schedule speed

auxiliary
the test
floor

Fuel Tests

Gain 15-20% Mpg

course covered a distance of 4.8 miles with a total of 36 stops.

Having established the course, the next job was to find some method of measuring fuel consumption and performance in increments not to exceed 1/10th mpg and 1/10th mph schedule speed.

Using a stop watch, we first set about trying to duplicate test runs so that the performance would remain within the above limits. Through the trial and error method (mostly error), we found that by recording the total elapsed time with one watch and measuring the 10-second stop time with another, and using a Wagner stop meter to maintain the same rate of deceleration at each stop, we

could duplicate our results within 1/10th mph schedule speed.

How Fuel Use was Measured

TO MEASURE gasoline consumed, we used several different makes of fluid meters without much success. None of the meters were accurate enough to consistently measure fuel to 1/10th mpg. We also found that the meters showed considerable variation between two exactly duplicate runs.

We finally decided that weighing the fuel was the only method which would give the results in the degree of accuracy which we felt was needed.

We obtained a small platform bal-

ance capable of weighing 100 lb, to the nearest ounce. This was placed on the test vehicle. A 5-gal test can equipped with flexible fuel line and pet cocks was used to supply fuel to the carburetor in lieu of the fuel supply line from the regular fuel tank.

The pet cocks were arranged so that the fuel line could be broken at the test can at any time without loss of fuel. This made it possible to weigh tank and fuel at the beginning and end of each run to obtain the net weight to the nearest ounce of fuel used during the run.

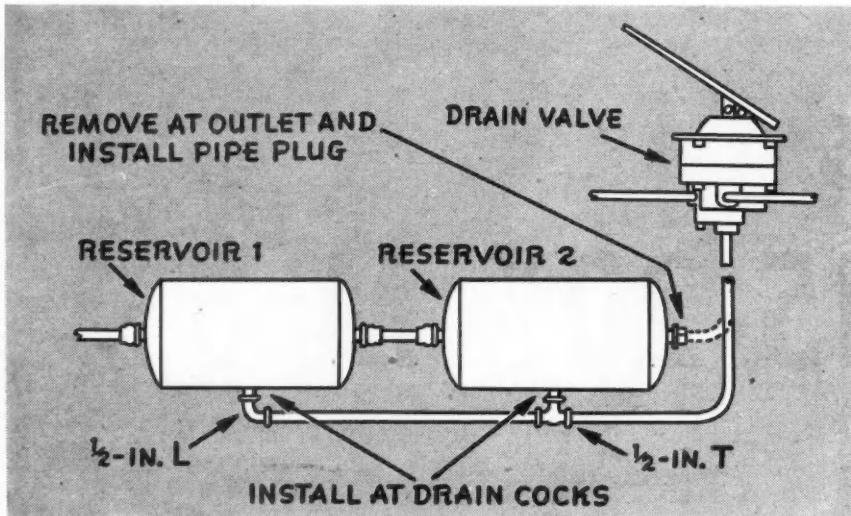
Using the specific gravity of the fuel at the average ambient temperature during the test run, we then con-

(TURN TO PAGE 152, PLEASE)

SHOP HINTS

FROM FLEET SHOPS

HINT OF **\$25** THE MONTH



Air Tank Drain

by Milton W. Nesuda
Dallas Railway & Terminal Co., Dallas, Tex.

To modify the air system so that air tanks may be drained through the brake valve or relay valve, proceed as follows:

Remove the air tank drain valves and clean tanks to remove any hard carbon formation that might cause a valve to leak in the event some of this material lodged on the valve seat. Then manifold the tanks together at the drain holes using tubing and fittings of a size equal to that supplying the brake valve; also use a Tee on the forward tank. Now remove the line from the

tank supplying the brake valve and attach to the open end of the Tee on the tank manifold.

The brake valve will now receive its air supply from the bottom of the air tanks and any accumulation of moisture will be blown out with each brake application. After a few days' operation when the remaining oil and moisture have been blown out, the air system will be completely dry, as the amount of moisture that will accumulate between brake applications is insignificant.

1. Gasket Installing Tip

by Ray Tindal
Philadelphia Inquirer
Philadelphia, Pa.

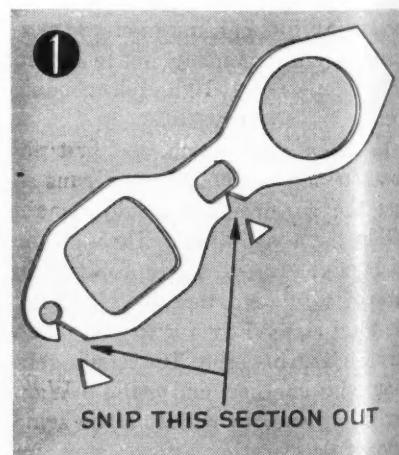
Here's a quick way to install intake manifold gaskets without completely removing the manifold. This trick can be used on all assemblies having a single row of hold down bolts such as in Dodge and Chevrolet engines.

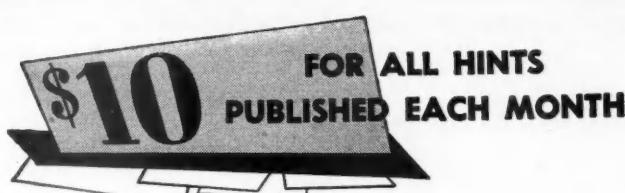
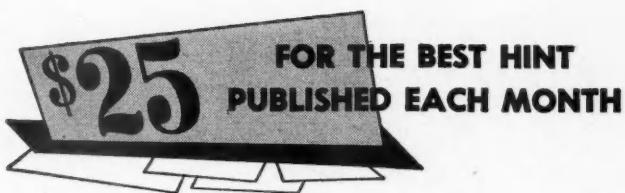
With the tin shears snip out a triangle section as shown so that the gasket can be slid down over the bolts after the manifold is loosened.

2. Brake Drum Reinforcement

by Wm. W. Cutaiar, Jr.
Mushroom Transportation Co.
Philadelphia, Pa.

We have had trouble with brake drums breaking and flying apart under heavy-duty operations such as in mountainous terrain. No drums have been able to withstand the heat





and pressure developed under our conditions.

As a result it has been necessary for us to reinforce all drums on tractor-trailer combinations. A 1½-in. steel band is fitted to the drum as near the bell as possible and is welded at three or four spots around the drum as shown. Even new drums are modified in this manner, and as a result we get an appreciable improvement in mileage without cracks. Even when small cracks are noted under some conditions, we can use a drum for several additional miles before replacement is necessary.

3. IHC Door Modification

by E. E. Sebold
Gateway Transportation Co.
La Crosse, Wis.

Some of the doors on International Harvester L 185 trucks have broken at the spot welds on the braces, permitting sag and hard closing. I have

solved the problem by installing angle iron braces across the door in the spots noted on the drawing. These pieces are welded to a 6-in. strap iron above and below and to the door hinge on the opposite side. Reinforcing pieces are in turn bolted to the door upright. Dotted lines show pieces added.

4. Air Lock Cure

by Harvey Muller
Danboro, Pa.

Due to air lock in the oil passages, often an oil pump won't pick up its pressure after dropping the oil pan or flushing the crankcase.

Loosen the compression nut on the line leading to the dash gage, loosen the oil line slightly in its seat, thus allowing the air to be vented that has been trapped.

As soon as this air is vented, the pump will pick up its prime and start pumping.

IS YOUR NAME ON THESE PAGES?

Just in case you can use some extra money, let us call your attention to this effective way of increasing the take-home-pay. Note that you can make yourself a nice fat ten-buck bill—or a \$25 jackpot—in five minutes spent with a pencil and the old bean. Just rough out a sketch of that special tool or your favorite short cut to keeping these trucks trucking, and let us see it.

The shop hints you send in are one of the most widely read features in CCJ. Readers tell us they help immensely in making repair work easier and faster. Let's keep the boys happy and your own pockets lined with dough. When shall we expect your contribution?

5. Welding Tips

by Frank P. Coulomb
Inglewood, Cal.

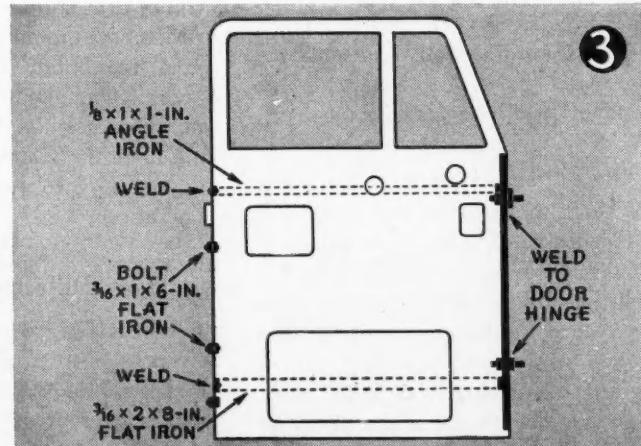
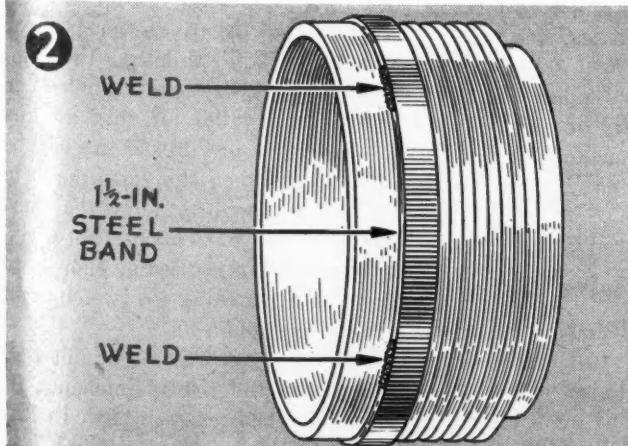
In many cases when broken castings are to be welded and where there are holes you do not want disturbed by the weld, you can protect the spot by the following method.

Take a piece of heavy sheet asbestos and mix it with water into a soft putty. Force the solution into the holes and tamp solid.

6. Gasoline Leak Detector

by Gordon E. Upperman
Continental Baking Co.
Wheeling, W. Va.

Here is a handy trick for locating leaking gasoline lines from the fuel pump to the tank. Insert a liquid line indicator or sight glass in the line just ahead of the fuel pump. Any leaks will be shown by bubbles in the gasoline flow. This indicator can be procured from any refrigeration supply company.





By L. S. Hopkins, Division Garage Foreman, Texas & Pacific Motor Transport, Dallas, Texas

Texas Carrier's Tire Campaign Cut Costs by 33%

UNTIL A FEW YEARS AGO, Texas & Pacific Motor Transport had a somewhat antiquated system of checking truck tire performance. Though sufficiently thorough, our plan was unwieldy, expensive in clerical time, and lacking in features permitting comparisons.

Now as we look back at our rather bunglesome assortment of tire data, it seems surprising that we did not clean house before — especially now that the resultant program has been responsible for cutting tire costs 30 per cent.

A thorough housecleaning in this phase of motor transport maintenance possibly will reveal some pretty dusty pieces of furniture, all familiar but in need of polish. One of the values of such a program is that everyone can begin to see the desirability of daily housework. Daily, concentrated effort, not periodical strain, is the secret of good tire maintenance.

Tire Cost in 1945 was \$86,000

IN 1945, the tire cost for the T & P Fleet, much smaller than now, was \$86,000. We believed this was too high, but did not actually know. Our tire record figures were not handled in such a way as to encourage checking and comparing with prior years.

Today, when a tire is scrapped, we know with reasonable accuracy how

Lack of one feature of T&P's existing tire record system spurred survey that brought many surprises and improvements which benefited tire life and cut costs

many miles it has traveled, how much was spent in repairing and recapping it, and on how many wheels and positions it operated. Our system, we feel, is capable of giving us the vital facts we need to make the tire investment pay a good return.

Rarely do we find anything concerning the workmanship and material of tires subject to criticism. Tires which cost the most money, as a rule, give maximum mileage, and vice versa. Our company's policy is to purchase a wide variety of tires, giving us in the maintenance division an opportunity to see many brands in operation.

Many Different Makes Used

CHECKING, we find that our units now are carrying 18 different makes of the 8:25x20 size, while 14 makes are represented by the 9:00x20 size.

Tires of different sizes manufactured by the same company seem disproportionate in characteristics other than size. Our records denote this, but why tires of identical makes, varying slightly in size, show a noticeable discrepancy in service rendered is, so far, unknown to us.

In 1950, our over-the-road units ran over 3,500,000 miles, and our records show that we received an average of 79,391 miles per tire. This consists of 44,016 new tire miles and 35,375 recap miles. In this, we find that one make in 9:00x20 size will be outstanding when the same make in 8:25x20 size will not show the same average. The variation is not strikingly great, but noticeable enough to make it interesting to watch and attempt to explain.

The majority of tires are built well these days, and tire maintenance in general can be greatly improved without a great deal of extra trouble.

MONTHLY TIRE RECAPITULATION											
TIRES SCRAPPED						TOTAL MILEAGE OBTAINED			AVERAGE MILES PER TIME		
New Mileage		Recap Mileage		New Mileage		Recap Mileage		New Mileage		Recap Mileage	
Month	This Month	This Year	This Month	This Year	This Month	This Year	This Month	This Year	This Month	This Year	This Month
1											
2											
3											
4											
5											
6											

Form MT-525
2 TIRE INSPECTION WORK SHEET
 Location _____ Unit _____
 Inspector _____ Wheel Type _____
 T & P M T Co.
 CODES
 P-Flat
 C-C Missing
 V-Wheel Leak
 MI-Mismatched Duals
 MH-Mismatched Hand Holes

Form MT-526
3 TIRE REPAIR CARD
 T & P M T Co.
 DATE _____
 TRUCK OR TRAILER NO. _____
 DRIVER _____
 MILEAGE _____
 WHEEL POSITION _____
 BRAND NO. REMOVED POSITION _____
 BRAND NO. APPLIED POSITION _____
 CAUSE _____
 WHERE LEFT _____

Form MT-524
4 VEHICLE TIRE RECORD
 TEXAS AND PACIFIC MOTOR
 TRANSPORT COMPANY
 VEHICLE NO. _____
 WHEEL TYPE _____
 TIRE SIZE _____
 DATE L.F. R.F. L.R.L. R.R.L. L.R.R. R.R.R. L.F. R.F. L.R.L. R.R.L. L.R.R. R.R.R.
 6
5 SCRAP TIRE
 INSPECTION REPORT
 LOCATION _____
 DATE _____
 T & P M T Co.
 BRAND NO. MAKE SIZE PLT C-C % OF
 AGE CAUSE OF FAILURE % REMARKS
 Disposition _____
 Signed _____
 Title _____
 Form MT-523
6 TIRE RECORD CARD
 TEXAS AND PACIFIC MOTOR
 TRANSPORT COMPANY
 BRAND NO. DATE PURCHASED P. O. NO. PURCHASED FROM
 Date Applied Vehicle Number Wheel Position Date Removed Date on Repair Miles Accumulated Miles
 Repair Cost Adjustment Allowed
 Date Inspected Miles When Inspected Repair for Repair Cost of Repair Date Inspected Vehicle Number Date Removed Date on Repair Miles Accumulated Miles
 First Date Inspected Condensate of Tire When Inspected Original Cost
 Repair Cost Total Repair and Repair Cost
 Last Check for Adjustment
 Total Cost of Tire When Inspected
 Adjustment Allowed

Occasionally, we use as few as three or four tires of a particular brand, and, whether the record is outstandingly good or noticeably poor, we are reluctant to use this as an index to quality. When 40 or 50 tires of a common brand are used, the conclusions drawn are considered much more sound.

Tire Record System Started

WE ARE indebted to numerous operators, tire company representatives and other experts for assistance in designing our forms used in compiling tire performances. After examining several systems, we chose points from most of them, took suggestions from the tire manufacturers

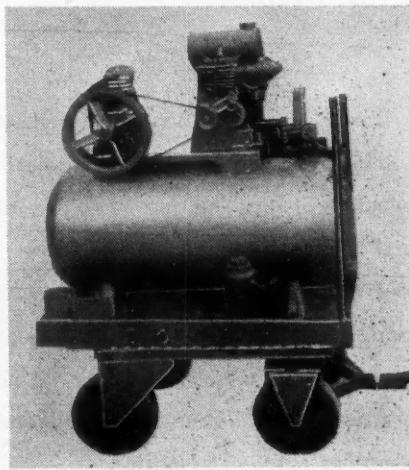
and adopted ideas gleaned from garage personnel, always keeping an eye on simplicity.

We now have 350 units, which require, either in use or in reserve, an aggregate of 2500 or more tires. It takes only two hours per day on the part of one clerk to keep the tire files complete and up to date.

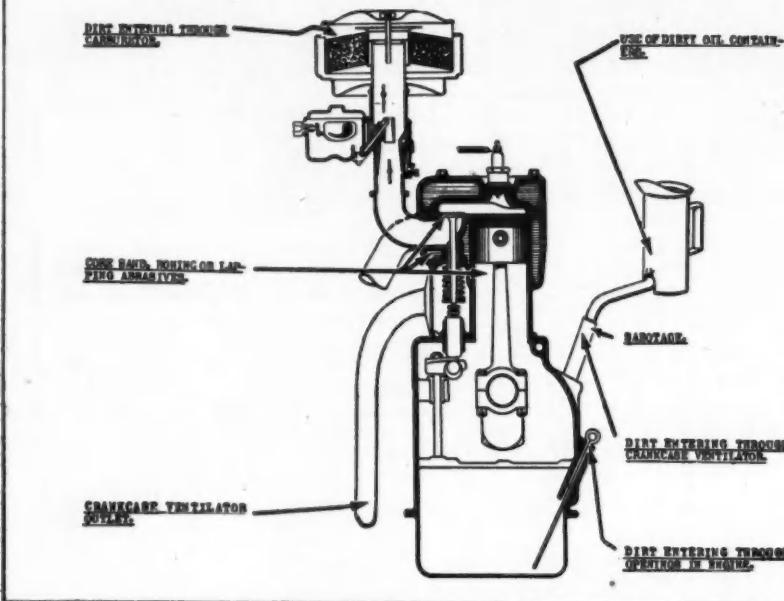
In the beginning, we drew up a chart designated "Tire Inspection Work Sheet," Fig. 2, a device intended to be used temporarily in locating and branding every tire in use. This form also was to be used temporarily in gathering general statistical information, having to do with mechanical defects reflected in improper tire wear.

(TURN TO PAGE 104, PLEASE)

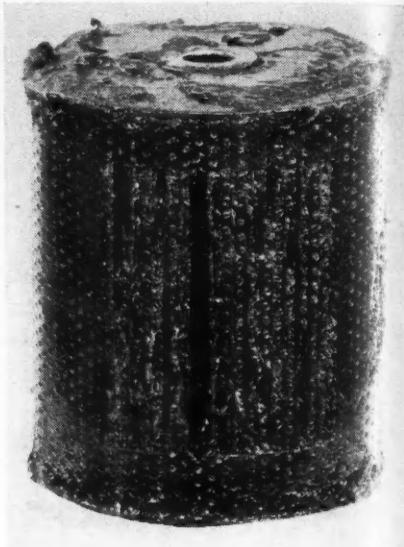
Assortment of forms shown above comprises T&P's current tire record system, which has permitted close maintenance control and cut costs 33 per cent. BELOW: Portable compressor



SOURCES OF DIRT IN THE OIL



Dirt may enter an engine and work its way into the crankcase oil through the carburetor, crankcase ventilator inlet openings in the engine by the use of dirty oil containers, by deliberate sabotage or from core sand, honing or lapping abrasives that were present in the engine during its manufacture. Most dirt detected in crankcase oil has entered the engine through the carburetor and regardless of the type of operation the engine should be equipped with a good air cleaner and the air cleaner should be very carefully maintained. There is no such thing as clean air, except possibly for a few minutes just after a violent rain storm. The clearest country air contains over one-million dust particles per cubic foot, while city air in winter may contain twenty-three million articles. An oil bath air cleaner, properly maintained, removes 95 to 98 per cent of the dirt while a standard wire gauze type cleaner removes from 60 to 70 per cent of the dirt.



Incomplete combustion resulting in abnormal sludge deposits in the oil will lead to rapid plugging of the oil filter even though the filter may be of adequate size. Here is a typical example of a plugged oil filter. The oil in this case became contaminated at an excessively rapid rate and it was necessary to change the oil filter as often as every 500 miles in order to keep the oil in the engine clean. Excessive moisture in the crankcase oil can cause oil filter plugging. This condition can be corrected by operating at high speeds and high temperatures with adequate crankcase ventilation at sufficient intervals to drive the moisture particles from the oil filters.

These ENGINE FAILURES Can

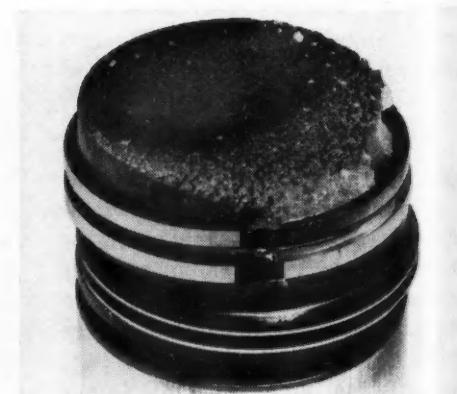
Dirt, high temperatures, improper crank case ventilation, detonation and ignition

By C. G. Rood

Technical Service Department, The Pure Oil Co.

Don't let engine parts get this way. Periodic attention to the cooling system, frequent spark adjustment to the octane of the fuel, selection of gasoline and oil to fit particular operating requirements, and frequent service of the filters will keep the combustion area and the crankcase clean. These murdered parts prove the folly of inadequate maintenance. But you can catch these failures before they cause serious damage by watching carefully the engine compression, the condition of the lubricating oil and the gasoline consumption rate.—The editor.

In examining failed pistons look for evidence of erosion if such a condition is present detonation is the probable reason for the part failure.

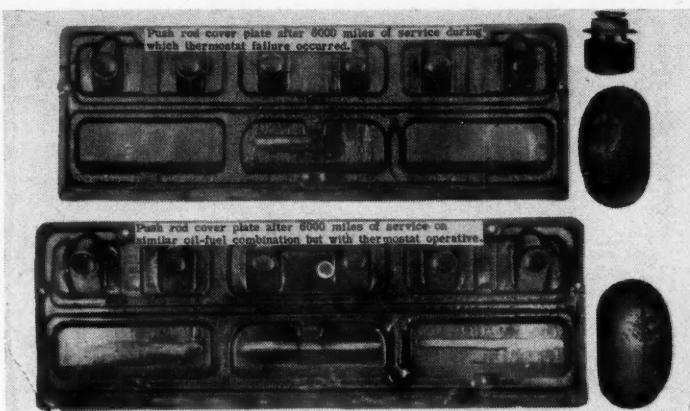




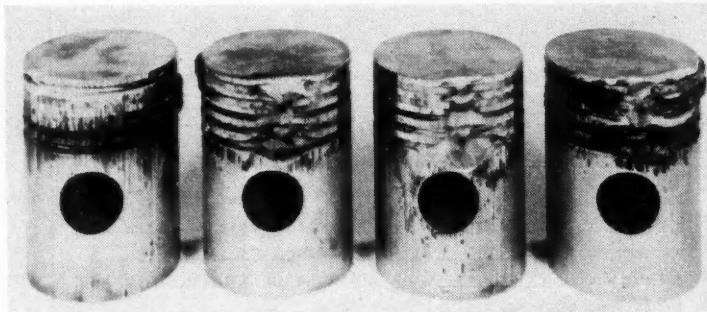
NOTE VARNISH DEPOSIT HAS CLOSED HOLES IN FILTER ELEMENT AND DRIPPED DOWN SIDE OF TUBE.

The oil fill cap on the left in this picture was removed after only 3500 miles of service and as you can readily see the heavy coating of varnish completely plugged the inlet to the ventilation system. This condition occurred because the crankcase ventilation system was not functioning properly and the blowby gases were being vented through the oil filled cap rather than leaving via the road draft tube. Lubricating oil had nothing to do with the formation of this deposit. This deposit was formed entirely by materials from the blowby vapors.

Right. Notice the heavy amount of carbon formed under the piston head. This apparently was a result of extremely high piston temperatures due to detonation or pre-ignition. These high temperatures caused the oil coming in contact with the over-heated underside of the piston crown to carbonize and this in turn caused higher piston temperatures and more knocking. This type of deposit is dangerous because in the continuing cycle of events complete piston failure will eventually occur because the metal of the piston will become so hot that it will burn.



This photograph shows excessive sludge deposits which resulted from a lapse in maintenance. The thermostat in the cooling system became stuck in the open position and was not reported by the driver for 6000 miles. Because of this undetected and unreported condition sludge deposits shown in the top portion of the photograph built up on the side cover plate of the engine. The cleaner engine condition shown in the bottom portion of the photograph resulted from 6000 miles of operation similar in every respect except that the thermostat was functioning properly.



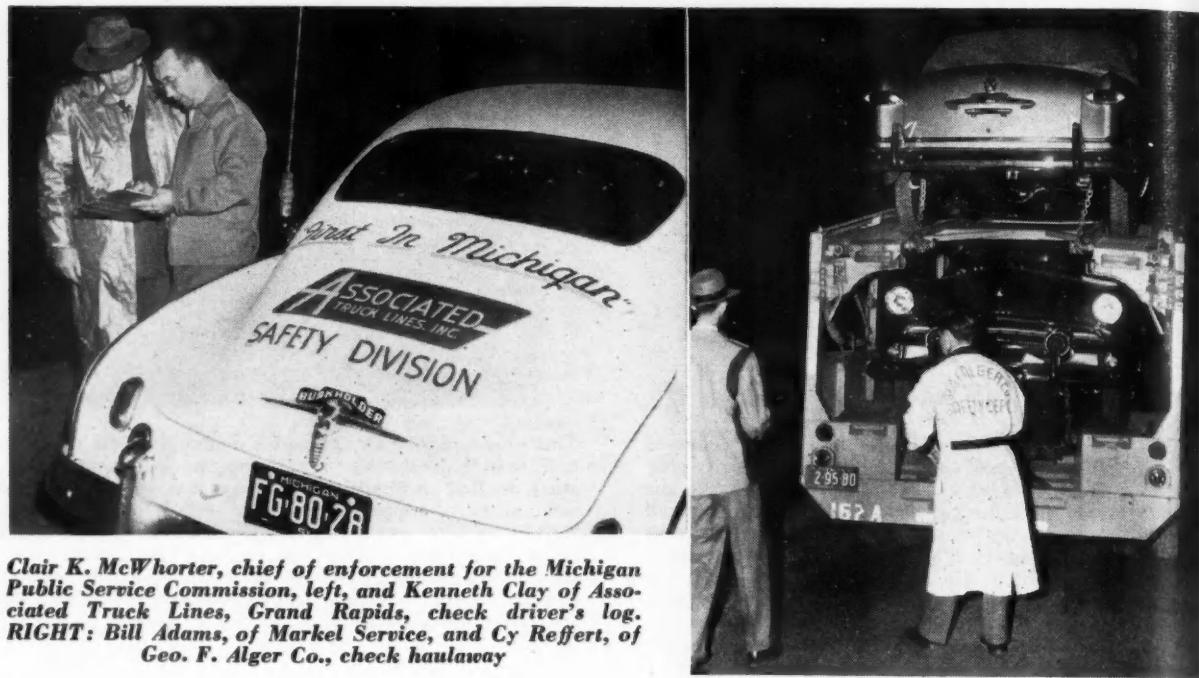
be Controlled

failures raise havoc with engine parts

Upper right. New pistons were placed in a test engine and a test was started with the spark advanced deliberately to 125 deg. before top dead center to simulate a hot spot condition in the combustion chamber of the engine. After only five minutes of operation the above failures occurred. Pre-ignition is abnormal combustion which is initiated by a hot spot or some other source of heating igniting the fuel. Temperatures in the combustion chambers rapidly rise and the pre-ignition condition becomes worse. This in turn causes higher temperatures and a very rapid burning and failure of the piston crown or lands.

Right. Excessively long drain periods, stop-and-go driving or low temperature operation, high oil temperatures and use of the wrong type oil results in excessive sludge deposits like this.





Clair K. McWhorter, chief of enforcement for the Michigan Public Service Commission, left, and Kenneth Clay of Associated Truck Lines, Grand Rapids, check driver's log. **RIGHT:** Bill Adams, of Markel Service, and Cy Reffert, of Geo. F. Alger Co., check haulaway

MTA's Self-Policing

Michigan Laws

MICHIGAN TRUCKING SAFETY PATROL		
ROAD CHECK FORM		
CARRIER <u>GEO. F. ALGER</u> DATE: <u>5-3-51</u> TRACTOR #: <u>357</u> TRAILER #: <u>3402</u>		
DRIVER'S NAME: <u>E. TEEPLES</u> HOME ADDRESS: <u>12928</u>		
CITY: <u>DETROIT</u> STATE: <u>MICH.</u> LIC #: <u>166570443</u> EXP. DATE: <u>8-1-51</u>		
TRACTOR OR TRUCK: LEFT & RIGHT FRONT WHEELS & TIRES: <u>OK</u>		
1. HEADLIGHTS: <u>OK</u> UPPER: <u>✓</u> LOWER: <u>✓</u> RIGHT & LEFT DOOR & GLASS: <u>OK</u>		
2. FRONT WHEELS & TIRES: <u>OK</u> MIRRORS: <u>OK</u>		
3. LEFT DOOR GLASS: <u>OK</u> TRACTOR TAIL LIGHT: <u>OK</u>		
4. CAB MARKER LIGHTS: <u>OK</u> HORN: <u>OK</u>		
5. REAR WHEELS & TIRES: <u>OK</u> WIPERS: <u>OK</u>		
(3) POTS: <u>3</u> HAND BRAKE: <u>OK</u>		
(3) FUSES: <u>3</u> FIRE EXTINGUISHER: <u>YES</u> FULL(?) <u>YES</u>		
(2) FLAGS: <u>2</u> BULBS & FUSES: <u>OK</u>		
LOG BOOK: <u>OK</u> 5th WHEEL: <u>OK</u>		
GAS TANKS: <u>SAOLE</u> SAFETY TANK (YES) <u>✓</u> (NO) _____		
TRACTERS & FOUR WHEELERS:		
CONNECTORS BRAKE: <u>OK</u> LIGHT: <u>OK</u> LICENSE PLATE: <u>OK</u>		
CLEARANCE LIGHTS (NO.): <u>4</u> COLOR: <u>R&R</u> PUBLIC SERV. TAG: <u>36612</u>		
MARKER LIGHTS (NO.): <u>4</u> COLOR: <u>R&R</u> WHEELS & TIRES: <u>OK</u>		
REFLECTORS: <u>OK</u> LANDING GEAR: <u>OK</u>		
TAIL LIGHTS: <u>OK</u> DOORS: <u>OK</u>		
STOP LIGHTS: <u>OK</u> SAFETY CHAINS: <u>NOT NECESSARY</u>		
REMARKS: <u>UNIT IN GOOD SHAPE</u>		
INSPECTOR: <u>W. MERRITT</u>		
NOTE: 2nd Copy to 222 Fort Shelby Hotel — Detroit, Michigan		

Copy of Report which goes to MTA and checked truck's owner

A FEW YEARS AGO, the American Trucking Associations' Director of Safety, G. D. Sontheimer, announced that the industry would undertake a far-reaching job of self-policing, in cooperation with the law-enforcement agencies of the states and the nation.

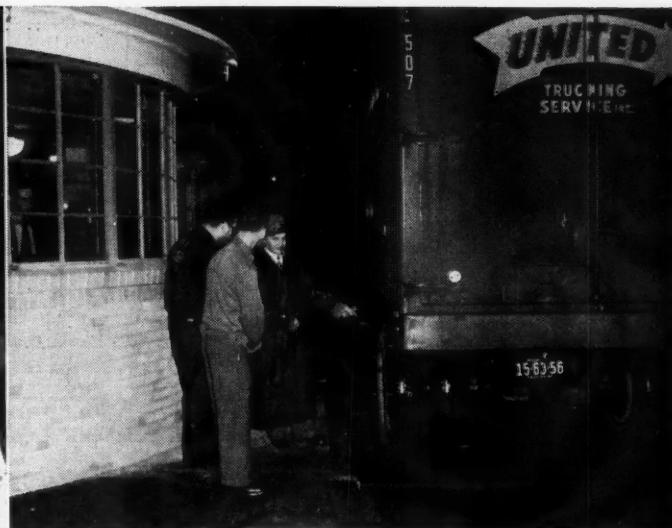
The national organization is the Council of Safety Supervisors. Its membership is composed of men who direct the men in the cabs of trucks, and their assistants. Insurance company engineers and others interested in safety and courtesy on the highways may belong also, and do.

When the ATA launched the Council of Safety Supervisors, the Michigan Trucking Association was one of the first of the 52 ATA affiliates to endorse the plan wholeheartedly.

Toward the end of 1949, the MTA safety men began to discuss the matter of road supervision.

Reports from the Michigan State Police left no doubt in their minds that the trucking industry would have to help the law-enforcement agencies. The reason for this was not lawlessness on the part of truck drivers. It was simply that the state did not have facilities or manpower to patrol the thousands of miles of highways all over Michigan.

The trucking industry said, "We will do all we



LEFT: Cy Reffert checks log book of driver for Norwalk Truck Line. Marvin Holcomb, of Markel, watches. ABOVE: Ken Clay, W. Earl Givens, Jr., of Alger, and M. G. Holstine, of Michigan Trucking Assn.



By James D. Keith

Editor Trucking News (MTA)
and Editorial Staff Member,
Detroit Times

Mission . . .

Get Industry Respect

State's logical and fair vehicle weight laws give truckers opportunity to do an efficient job. Fleets reciprocate by self-policing to prevent violations

can to help. We will intensify the educational activities within our companies and within our association. We will undertake to check, at regular intervals, our equipment on the highway, under actual operating conditions. Our safety supervisors will go out themselves and do it."

And, thus, did the trucking industry in Michigan become one of the first to launch a far-reaching, thorough and systematic program of road supervision. Since the first of the year, there have been two equipment checks a month, in various parts of

the state, and usually within a few hundred yards of one of the state scalehouses.

The supervisors, working in cooperation, set a time and place for the road check. Drivers are not informed of this in advance; but it must be admitted that the grapevine is a pretty fast carrier of news, and it is only a matter of a half hour or so after a roadblock is established until the drivers on the road know it. But then it is usually too late for a driver to do anything about it if he isn't prepared for inspection.

Example at Erie

THEY were rolling in great numbers over the state scale at Erie, Mich., on Telegraph Road near the Michigan-Ohio border the night of May 2. And one after another, they rolled across one of two platforms and two weighing devices—one for northbound trucks, the other for those going south.

There is a big red light about a hundred feet from the scalehouse. If a rig rolls onto the platform overloaded, the light goes on and the driver must stop and take his medicine.

It seems incredible, but in three hours on that cold, drizzly night, the red light flashed on only once. It caught our eye, and that of 26 others: Most were supervisors of safety for as many Michigan fleets; and on their own time.

"How much has he got on?" we asked the weighmaster.

"He's just 900 over," he replied.
(TURN TO PAGE 126, PLEASE)

By Harold Brandaleone,
M.D., Med. ScD., F.A.C.P.

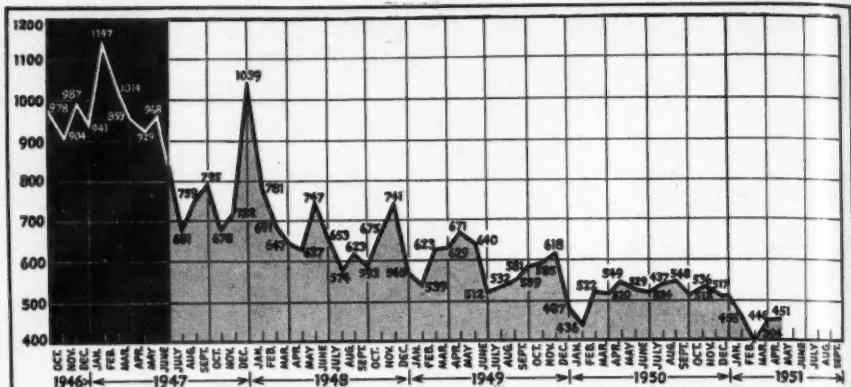
Medical Director

and

By Gerald J. Friedman,
M.D., F.A.C.P.

Assistant Medical Director

Third Avenue Transit System,
New York, N. Y.



Result of Third Avenue's aggressive accident reduction program is shown here

Fleet Doctors Tell How to

GOOD MEDICAL CARE, proper pre-employment medical examinations and regular periodic examinations of all bus and truck operators will result in improved health of employees and a marked decrease in the accident rate, with a resultant financial saving. Due to the efforts of the medical department during the past four years, the Third Avenue Transit System has saved approximately \$100,000 per year. The decrease in the accident rate, shown in Fig. 1, was accomplished by procedures outlined in detail in previous articles. (See 1 and 2 of Bibliography at end of article—ED.)

Essentially these procedures are:

1. Detailed personnel interviews.
2. American Transit Association Motor Ability and Psycho-Physical Tests.
3. Medical examinations.

It was shown that, since we established new criteria for employment, there has been a 44 per cent decrease in the accident rate. This decrease was manifested mainly in the preventable type of accidents, as shown in Tables 1 and 2.

In other words, proper medical examination will result in the selection of truck and bus operators who are less likely to have preventable accidents.

This article will demonstrate to the truck and passenger transportation industries that proper medical care is imperative for public safety, better health of employees, reduction in accident rate and financial savings. We will limit our discussion to the



A nurse always is on duty. Medical department won top award for its practices

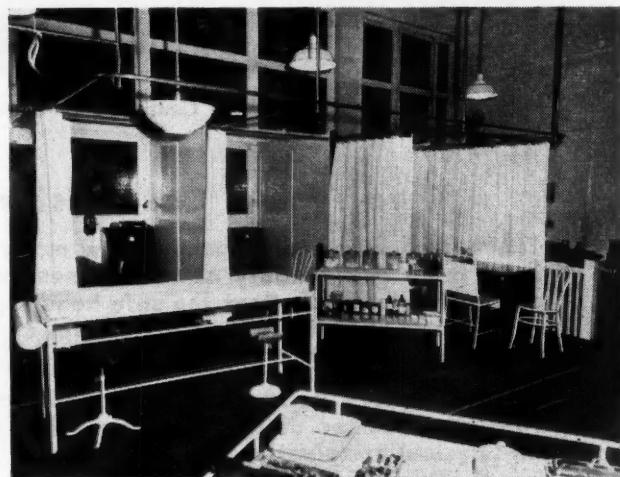
medical aspects of these problems and show its effectiveness in the Third Avenue Transit System.

Table 3 (above) demonstrates the incidence of illness and compensable injuries seen in our medical department in 1950. This gives a specific idea of the number and percentage of cases in each category.

I—PRE-EMPLOYMENT EXAMINATIONS

AFTER a candidate for employment as a bus operator has had his interview in the personnel department, and has passed his Motor Ability Tests, he is examined by the medical department. A full-page ques-

**Approximately \$100,000 a year is saved by
Third Avenue Transit System in decreased
accidents, alone. Increased well-being of
personnel, reduced absenteeism also gained**



Medical department has private examining rooms

Cut Accidents

TABLE 3

Summary of Medical Cases for Last Three Years

As Handled by Third Avenue Transit Systems' Medical Department

COMPENSATION	1948		1949		1950	
	Number	Percent	Number	Percent	Number	Percent
Abdomen and Genitals.....	24	4.4	23	5.7	15	5.7
Back.....	45	8.3	36	9.0	21	7.9
Extremities and Joints (Non-Fracture).....	284	52.9	181	45.2	106	40.1
Chest.....	26	4.8	27	6.8	7	2.6
Ears, Nose, Throat, Eyes.....	79	14.7	65	16.2	39	14.7
Head Injuries.....	40	7.5	29	7.3	13	4.9
Peripheral Nerve and Miscellaneous.....	6	0.1	9	2.3	7	2.6
Skin.....	5	0.09	13	3.3	35	13.2
Fractures.....	27	5.0	17	4.2	22	8.3
TOTAL.....	536	100	400	100	265	100
ILLNESS						
Respiratory Disease.....	685	31.6	413	28.5	336	31.1
Surgical.....	194	8.5	146	9.3	90	8.4
Muscle Joint Tendon (Non-Traumatic).....	210	9.7	147	9.4	123	11.3
Trauma.....	161	7.4	128	8.2	63	5.9
Cardio-Vascular-Renal.....	86	4.0	58	2.4	43	4.0
Metabolic-Endocrine.....	52	2.4	46	2.9	13	1.2
Allergy.....	33	1.5	28	1.8	13	1.2
Psychogenic.....	66	3.0	55	3.5	29	3.0
Gastro-Intestinal.....	238	11.0	188	10.7	81	7.5
Skin.....	58	2.7	60	3.8	59	5.5
Ears, Nose, Throat, Eyes.....	212	9.8	204	13.1	113	10.5
Miscellaneous.....	182	8.4	131	8.4	112	10.4
TOTAL.....	2,167	100	1,564	100	1,075	100

Incidence of illness and compensable injuries handled by medical department

tionnaire concerning the candidate's past and present history is obtained and studied. The candidate is then interviewed by the physician in a quiet, private room concerning this history, his family life, and previous employment. At this time, a simple mental examination is made. Following this, a complete physical examina-

tion is performed. Since this paper is not intended for physicians, we will omit the details of the physical Examination. Then a complete urine, serology (blood test) and X-ray of the chest are done.

All data, together with the candidate's military medical record is submitted to the medical director who

TABLE 1.
CLASSIFICATION OF ACCIDENTS BY TYPE
IN NUMBERS

	Group "A" Old Criteria	Group "B" New Criteria	Differ- ence Old— New
Total Number	229	128	-101
Non-Preventable	145	100	-45
Preventable	84	28	-56

TABLE 2.
CLASSIFICATION OF ACCIDENTS BY TYPE AS
TO PERCENTAGE DISTRIBUTION

	Group "A" Old Criteria	Group "B" New Criteria
Total Number of Accidents	100.0%	100.0%
Non-Preventable	63.5	78.0
Preventable	36.5	22.0

reviews all of these details with the examining physician. The candidate's qualifications are then determined.

It has been found that from 15 to 35 per cent of the men examined are not qualified by the medical department for the position of bus operator. These figures vary from year to year. Actually, the personnel department and Motor Ability Tests eliminate a

(TURN TO NEXT PAGE, PLEASE)

Fleet Doctors Tell How . . .

Continued from Page 65

Two Typical Case Histories

There is no way of determining how many truck and bus drivers there are on duty at this moment whose physical condition is about to affect the safe handling of their vehicles. Perhaps even the drivers themselves are unaware that an accident is about to happen.

As the authors point out, doctors are able to reduce greatly the number of such situations by, 1, pre-employment physical examinations; 2, careful study of absence for medical reasons and, if possible, periodic physical examinations. The following are two examples:

Pre-Employment Examination

W. T., a 23-year male, gave a history of two operations W. T., for pilonidal cysts (abscess at the base of the spine). On examination, a dimple and a very thin scar were found, indicating possibility of a recurrence. Our experience has shown that the constant irritation caused by sitting in a driver's seat, especially in hot weather, could reactivate this pre-existing condition and cause prolonged periods of absence. This applicant was rejected.

Examination of Employees

W. G., a 30-year male, who had been employed as a bus operator for 5 years, had been complaining of dizziness and headaches after driving a bus for several hours a day. Our examination disclosed no serious abnormalities; his vision was within normal limits. However, because of evidence of astigmatism, he was referred to our eye consultant, who found that he had muscle imbalance which caused his symptoms. We obtained another type of work for him.

Shortly thereafter, his symptoms disappeared and did not recur. Because he felt so well, he insisted that he return to work as a bus operator. He was permitted to do so against our advice. After two months, his symptoms returned. To his credit, he himself requested to be removed from his job as a bus operator.

The authors cite nine other cases in the accompanying text that should point out to all fleet operators the value of proper medical consultation to reduce accidents.

large number of unqualified persons so that the medical department examines only a select group of candidates.

We have established in the Third Avenue Transit System a list of minimal physical requirements for acceptance. Military medical records have been of invaluable aid to us. A candidate may, at the time of examination, present no demonstrable physical or mental disability, but a history from the military service may reveal a dormant defect that would interfere

with his ability to operate a truck or bus.

Such obvious disabilities as impaired vision or hearing, epilepsy or severe vascular degenerative diseases should disqualify a man immediately. Any conditions that might cause sudden disability to the bus operator and, therefore, endanger his passengers, should rule out the candidate. It has been found (See 3 of Bibliography at end of article—ED.) that there is a direct relationship between certain physical defects and accidents.

There is a group of seemingly innocuous medical conditions for which we reject a candidate. Experience has shown that these minor difficulties have far-reaching effects. Such conditions as ulcerated hemorrhoids, pilonidal cysts, ulcerative colitis, and osteomyelitis cause an operator to lose a great deal of time from work. This absent driver imposes on the other men in his division who must maintain the schedules; the overtime work fatigues them and they become predisposed to accidents.

The serious organic mental conditions such as schizophrenia and manic depressive psychosis are picked up during the Motor Ability or personnel examinations. The less obvious mental conditions are discovered during the medical examinations.

It has been our practice to reject a candidate who presents a psycho-neurotic picture, because we have found that, under stress, these men become accident repeaters. This type of driver becomes easily upset, argues with passengers, and may even strike an irritating passenger. Furthermore, he develops all sorts of psychosomatic complaints, which cause him to lose a great deal of time. This again puts extra stress on the other members of his division.

The most recent rejected candidates fall into the following classifications:

Nervous System	11
Cardio Vascular	17
Hypertensives	9
Rheumatic Heart Disease	2
Vaso-Motor Instability	2
Varicose Veins	2
Tachycardias	2
Obesity	10
Vision	9
Genito Urinary	5
Extremities	2
Hernias	2
Pilonidal Cysts	3
Miscellaneous	8

Pre-Employment Examination

THESE rejections are based, not only on obvious defects, such as defective vision or hearing, but on basic conditions which we feel interfere with the candidate's acceptance as a bus operator. The following cases, demonstrate our point:

1 Applicant, A.M., on physical examination, was found to be normal except for a mild asymptomatic, non-disqualifying varicocele, (a varicose vein of scrotum). However, on close perusal of his military record, this candidate was discovered to have had a gastro-intestinal hemorrhage while

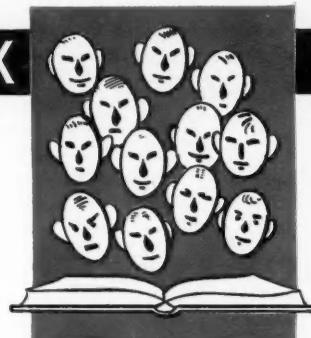
(TURN TO PAGE 176, PLEASE)

FLEET OPERATORS EXPERIENCE HANDBOOK

Majority of Fleets

Check Front End Regularly

All fleets check air, remove foreign objects with some regularity but 52% do not rotate, 17% skip front end



SURVEY NO. 22

PART 2



Tire Pressure Checking Frequency

Table 1

Most fleets check air weekly or oftener. Other reported periods are: 10-day, two-week, monthly

VOCATIONAL GROUPS	Total Number of Fleets Reporting	TIRE PRESSURE CHECKED			
		Weekly Per Cent	Daily Per Cent	Semi-Weekly Per Cent	Other Per Cent
COMMON CARRIER	21	28.58	42.86	14.29	14.27
FOOD DISTRIBUTION	43	67.44	16.28	11.63	4.65
GOVERNMENT	33	48.48	18.18	12.12	21.22
CONSTRUCTION AND MINING	3		33.33		66.67
INDUSTRIAL	6	50.01	16.67	16.67	16.65
PETROLEUM DISTRIBUTION	9	33.33	22.22	11.11	33.33
TRUCK RENTAL	4	75	25	25	
PUBLIC UTILITY	31	67.74		3.23	29.03
RETAIL DELIVERY	17	58.82	11.76	17.65	11.77
BUS FLEETS	12	50	8.33	33.33	8.34
TOTALS AND AVERAGES	179	54.19	16.20	12.85	16.76
ALL VOCATIONAL GROUPS					



Foreign Objects Removed Irregularly

Table 2

38 per cent go over casings once a week or oftener; 13 per cent do it monthly. "Other" periods longer

VOCATIONAL GROUPS	Total Number of Fleets Reporting	FOREIGN OBJECTS REMOVED FROM TIRES			
		Weekly Per Cent	Monthly Per Cent	Daily Per Cent	Other Per Cent
COMMON CARRIER	21	23.81	4.76	38.10	33.33
FOOD DISTRIBUTION	43	27.91	13.95	6.98	51.16
GOVERNMENT	33	33.33	9.09	9.09	48.49
CONSTRUCTION AND MINING	3			33.33	66.66
INDUSTRIAL	6	66.66			33.33
PETROLEUM DISTRIBUTION	9	11.11	11.11		88.88
TRUCK RENTAL	4	100			
PUBLIC UTILITY	31	16.13	29.03		54.84
RETAIL DELIVERY	17	29.41	23.53	11.76	35.30
BUS FLEETS	12	33.33	8.33	8.33	50.01
TOTALS AND AVERAGES	179	28.49	13.41	10.06	48.04
ALL VOCATIONAL GROUPS					

Analysis by A. W. Greene

Managing Editor, Commercial Car Journal

TIRE MAINTENANCE PRACTICES among truck and bus fleets have come a long way since pre-World War II. Wartime conservation practices made it necessary for better tire maintenance to keep vehicles rolling. Thus, by compulsion, many fleets acquired good habits.

However, there still is room for improvement, as indicated by the current survey of CCJ's Board of Experts. For example, the accompanying tables show that all fleets check tire pressure at one interval or another, and they remove foreign objects imbedded in tires at varying intervals. However, not all fleets rotate tires, and not all fleets check the front end periodically. Only all reporting Public Utility fleets checked front ends at regular predetermined mileages. Yet, even of these fleets, only 50 per cent rotate tires.

Tire Pressure Checked Weekly

REGULAR and frequent checking of tire pressure is most beneficial for lengthening tire life. Table 1 shows that better than 83 per cent of the reporting fleets check tire pressure at weekly intervals or better. The majority check tires weekly but a surprising number do it daily; which, according to this one man's opinion is best. The law of diminishing returns does not apply to this operation: A tire can be checked before a vehicle starts on a trip and, a block later, pick up a small nail that might not give trouble until the next day.

If possible, after the basic study is completed, an attempt will be made to analyze this phase of tire maintenance in the light of life and tire road failures to determine if there is a relationship.

Fleet practice in removing foreign objects is shown in Table 2. Once an almost ignored procedure, now its value is recog-

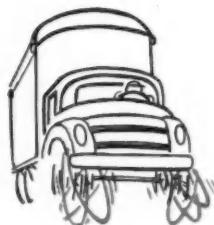
nized to the extent that more than 38 per cent of the reporting fleets do it weekly or oftener.

As in the case of tire pressure, it will be interesting to relate this operation in the future to tire life and road failures. We'll mortgage the old homestead to back our belief that the "Daily" boys show the biggest profit.

Detailed data on front-end maintenance will be found in Table 3. Attention is called to Column 2. This should be read in relation to Column 3. In other words, in the case of Food Distribution, 53.49 per cent (Column 2) of the 60.47 per cent fleets of Column 3 (and not of the total of 43 fleets reporting) seldom or never check toe-in. This complication arose,

frankly, from attempting to include too much data in that table and the last minute cutting to make the data fit.

The per cent of fleets that rotate tires is shown in Table 4. This table also contains much other interesting data. The last column in this table should be studied in relation to Table 3 in Part 1 of this survey, which appeared in last month's issue.



Fleets That Check Toe-in Do So Oftener Than Caster, Camber

Table 3

60 per cent of fleets that check front end omit toe-in checks.
Fleets that check all three, do toe-in at 1000 miles oftener than caster, camber. 17 per cent fleets never check front end.

VOCATIONAL GROUPS	Total Number of Fleets Reporting	Caster and Camber Only (Per Cent)	Check Entire Front End (Caster, Camber, Toe-in)		Never Check Front End (Per Cent)	Caster, Camber Checking Mileage		Toe-in Checking Mileage	
			Predetermined Mileage (Per Cent)	Irregular Intervals (Per Cent)		Range (Last 000 Omitted)	Average	Range (Last 000 Omitted)	Average
FOR-HIRE CARRIER.....	21	53.49	76.19	23.81	16.28	25 - 30	15,313	1 - 30	15,313
FOOD DISTRIBUTION.....	43	53.49	60.47	23.25	15.15	3 - 25	7,152	1 - 25	6,750
GOVERNMENT.....	33	45.45	51.52	15.15	33.33	2 - 100	14,566	1 - 20	7,750
CONSTRUCTION AND MINING.....	3	66.67	66.67	33.33	33.33	4 - 6	5,000	5 - 8	5,500
INDUSTRIAL.....	6	66.67	83.33	16.67	.....	5 - 50	23,740	5 - 50	20,000
PETROLEUM.....	9	.....	66.67	.....	33.33	5 - 20	10,333	5 - 18	9,833
PUBLIC UTILITY.....	4	.....	100.00	.....	.....	5 - 15	12,500	5 - 150	46,250
RETAIL DELIVERY.....	31	58.06	70.97	16.13	12.90	1 - 30	10,389	1 - 25	6,250
TRUCK RENTAL.....	17	84.71	70.59	11.76	17.65	1 - 25	11,272	1 - 25	9,500
BUS FLEETS.....	12	.....	83.33	.....	16.67	2 - 125	27,000	2 - 6	3,350
TOTAL AND AVERAGE ALL VOCATIONAL GROUPS	179	60.89	67.04	15.64	17.32	1 - 125	13,578	1 - 150	12,545



Less Than Half of Fleets Brand, Rotate or Repair Own Tires

Table 4

The majority of reporting fleets use tire lubricants, flaps and recapped tires. Fleets that rotate, do so at average of 12,738 miles; others at mileages from 2000 to 50,000 miles

VOCATIONAL GROUPS	Total Number of Fleets Reporting	Brand Tires (Per Cent)	Use of Tire Lubricant (Per Cent)	Use of Flaps (Per Cent)	ROTATION			Repair Own (Per Cent)	Use Recaps (Per Cent)
					(Per Cent)	Average Mileage	Range (Last 000 Omitted)		
COMMON CARRIER.....	21	80	50	18	55.56	18,000	5 - 50	31.82	86.38
FOOD DISTRIBUTION.....	43	32.43	41.18	81.25	62.50	12,500	2 - 40	27.27	83.33
GOVERNMENT.....	33	42.86	42.86	85.71	64.29	11,389	5 - 35	34.38	66.67
CONSTRUCTION AND MINING.....	3	66.67	33.33	66.67	33.33	10,000	- 10	.....	100
INDUSTRIAL.....	6	50	33.33	83.33	66.67	17,000	5 - 30	60	80
PETROLEUM DISTRIBUTION.....	9	28.57	57.14	100	55.56	17,600	5 - 50	66.67	57.15
TRUCK RENTAL.....	4	75	75	100	50	10,000	- 10	75	75
PUBLIC UTILITY.....	31	28.57	50	82.14	50	15,889	5 - 35	31.03	63.33
RETAIL DELIVERY.....	17	33.33	41.18	81.25	71.43	5,000	2 - 7	18.75	76.47
BUS FLEETS.....	12	83.33	50	91.67	84.62	10,000	3 - 20	18.18	66.67
TOTALS AND AVERAGES ALL VOCATIONAL GROUPS	179	41.95	51.88	86.62	48.04	12,738	2 - 50	31.40	76.19

Composition of Vocational Groups as Used in the Accompanying Tables

FOR-HIRE CARRIERS—Motor Freight Carriers in Local and Over-the-Road Service.

FOOD DISTRIBUTION—Bakery, Dairy, and Other Food Products Fleets.

GOVERNMENT—State, County, Municipal, and Federal fleets.

CONSTRUCTION AND MINING—Building, Mine, Quarry, and Gravel fleets.

INDUSTRIAL—Fleets operated by manufacturers.

PETROLEUM—Production and Distribution fleets.

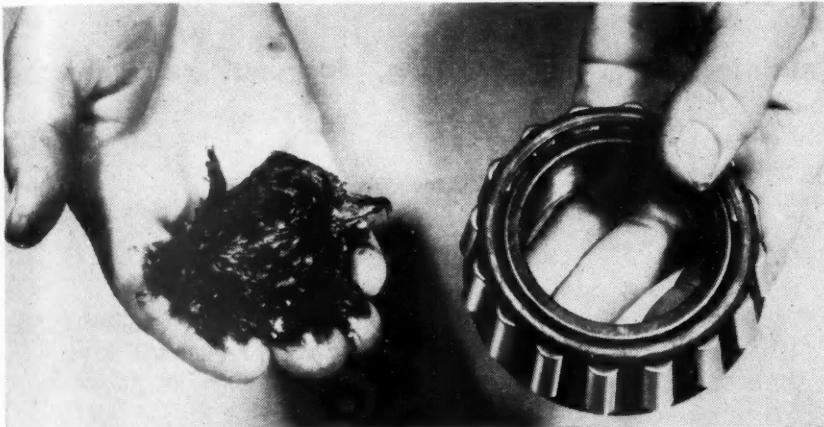
PUBLIC UTILITY—Gas, Power, Water, and Telephone fleets.

RETAIL DELIVERY—(Other than Food Products), Dry Cleaning, Laundry, Newspaper, Coal, Ice, Department Store, Beverage fleets.

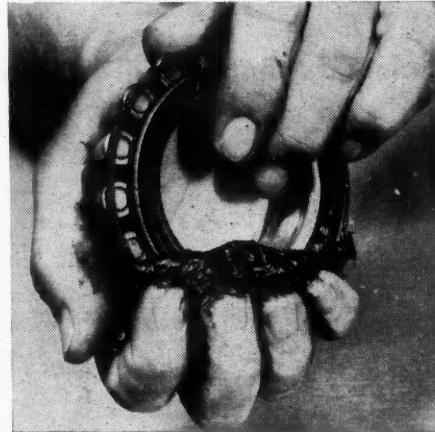
TRUCK RENTAL—Agencies leasing motor trucks.

TRUCK AND BUS FLEETS, MIXED—Passenger carriers, operating own truck fleets.

No. 1 How to Pack a Wheel Bearing



Step 1. After the bearing is properly cleaned and dried, select the proper grease; hold a small amount in the right hand; hold the bearing in the left, and . . .



Step 2. . . . work the grease into the bearing cone. The bearing, big end up, has been placed in the palm of the hand holding grease. Fingers work grease into cage . . .



Step 3. . . . until it protrudes from between rollers at small end. Small amounts of grease permit ready observance of the lubricant as it protrudes



Step 4. . . . from between the rollers at the completion of the packing of the cage.

Step 5. A layer of grease is then applied all around the rollers, filling the spaces and completely covering the entire assembly and . . .



Step 6. . . . the cone is properly packed and ready for installation. Caution: install bearing immediately to keep out dust and dirt.



Photos and text, courtesy The Texas Company, New York.

STOP TAILGATING CAMPAIGN

OTHER SUBJECTS

included shop facilities, tire maintenance, fuel filtering, terminal records and

MAINTENANCE . . .



New officers of ATA Equipment & Maintenance Council include (l. to r.) L. E. Kassebaum, Consolidated Freightways, 2nd vice-chairman; P. A. Amato, Federal Express, past chairman; W. Fred White, Great Southern Trucking, new chairman; T. F. Cowley, Carolina Motor Express, 1st v-c; and Ward L. Bennett (not shown), Baltimore Transfer, 3rd vice-chairman

VFOLLOWING the talk by Bert Ogden of Consolidated Freightways and panel discussions mentioned in last month's issue (CCJ, June, page 66), other activities of the Equipment and Maintenance Council at the ATA spring meetings in San Francisco included a slide presentation by A. L. Springer, Supt. of Equipment, Pacific Intermountain Express on his company's shop and procedures at Denver. Several of these are included in an entirely new discussion of preventive maintenance activities, which begins on page 51, of this issue.

Later in the program Ed Mills, Highway Engineer for the Western Highway Institute, a group of West Coast motor carriers, discussed the problems of multiple axle loading and explained, particularly for the benefit of his Eastern listeners, that the three most popular rigs on the west coast today are (1) the three-axle tractor and two-axle semi trailer; (2) the three-axle truck and two-axle full trailer; (3) the two-axle tractor with single-axle semi-trailer followed by two-axle trailer made up of semi-trailer with converter dolly. Most Western states allow 8000 lb. on front axle, 18,000 lb. on single axles and 32,000 lb. on tandem axles, provided there is proper spacing between the axle groups. But, Mr. Mills explained, that all new bridges are being constructed for utmost

capacity of 36,000 lb. on tandem axles. If and when this becomes completely effective, gross vehicle loads presumably would be permitted considerably in excess of existing standards. In view of these changes, it appears that most West Coast operators are at present quite satisfied with their 18,000 lb. axle law.

In two panel discussions held on the last afternoon of the maintenance session, operators discussed fuel problems and tire maintenance procedures. One of the high lights of the latter discussion was an informal presentation by Julius Gaussoin of Silver Eagle Co., outlining briefly the main factors of his tire credit plan (see CCJ, May '48, page 52) and the fact that he always placed new rubber when possible on rear trailer wheels, sometimes on front wheels but *never* on driving wheels. After the new tires begin to show any sign of cupping or uneven wear, they are immediately removed and placed on the driving wheels where they are worn smooth in relatively short time and then sent to the recapper. This practice of never putting new rubber on driving wheels was rather revolutionary and a quick consensus of opinion around the table indicated that few operators followed this advice.

It was generally agreed that most tires were now being pulled for recapping just before the tread was completely gone rather than letting them run out to total failure. Such practice obviously has the advantage of preventing road fires and road failures and also conserves rubber next to the strips for recapping purposes.

At the fuel discussion panel, originally intended to discuss effects of lower octane and cetane fuels, interest centered chiefly on particular problems. One large operator noted that he was having considerable trouble with burning out energy cells on the particular type of diesel engine he was using, while another noted serious troubles with regard to water in the fuel. The show of hands around the table indicated that only one operator (N. L. Parks of Dixie Highway Express) was using fuel filters at the dispensing pump, although nearly all had at least two filters in the line on their vehicles.

Considerable interest was centered on the dispensing pump filter and it was noted that nearly all bus operations use this type of equipment.

Highlights ATA Spring Meeting

SAFETY:

operations, job training and cab design

TERMINALS . . .



Terminal Operations Council officers (l. to r.) are S. T. King, Mason & Dixon Lines, past chairman; C. G. Zwingle, P. I. E., new chairman; M. L. Moore, Roadway Express, 1st vice-chairman; W. P. Davis, Associated Transport, 2nd v-c; and James O. Toler, Southern Express, 2nd vice-chairman

SECOND phase of the ATA spring meetings was the annual meeting of the Terminal Operations Council. Discussions covered such subjects as public and labor relations as it affects the terminal manager, trailer interchange problems, architectural features for freight docks and two very interesting discussions of daily reports as a means of controlling line operations. The latter were presented by W. P. Davis, vice-president of Associated Transport and Philip Small, vice-president of Pacific Intermountain Express. Each outlined in considerable detail the manner in which their companies were handling very rapid accumulation of shipping data through the use of machine record systems.

At a separate meeting, John C. Winter of the U. S. Department of Agriculture reported briefly on more than 150 tests recently conducted by the Department's Research Branch in the field of truck refrigeration. Results of the test will soon be available (July 1) from the U. S. Government Printing Office, Washington D. C. under the Title: "Transportation of Frozen Citrus Concentrate by Railroad and Motortruck From Florida to Northern Markets."

MOST INTERESTING discussion at the annual spring meeting of ATA's Council of Safety Supervisors centered around the recently introduced ATA national campaign to stop tail-gating. The campaign features a truck operators' pledge and a professional drivers' pledge, stressing the following four points: (1) Maintain distance behind the vehicle ahead; (2) Drop back whenever attempt is made to pass but the way is not clear; (3) Make every effort to permit traffic to pass on long grades and (4) Permit delayed traffic to pass after reaching the top of a long grade.

While the pledges make no specific reference to signaling, it is an almost essential part of the program and varies definitely with established legal opinion that drivers should never make any signal which might be held against them in court.

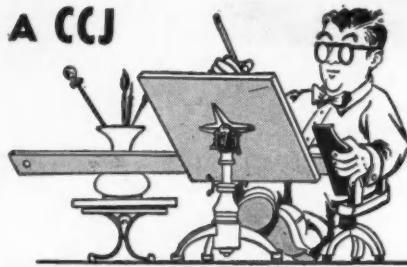
Also included in the program is a decal for use in the back of the truck with the simple wording "I'll help you pass." Discussion at the meeting centered particularly around the use of this decal, for if it is used, and a driver does not signal, then the nerves of the passenger car driver behind may be even more upset than without the use of the sign.

Particularly interesting comment came from Russel Wenzel of the Truck Insurance Exchange, Los Angeles, who stated that within the last year his company had reversed its previous feeling and now argued that the cost of an occasional claim based on the use of a driver's signal to pass can be far off-set by the increased public good will built around the use of stop tail-gating campaign and particularly the use of the decal. It was pointed out that most court claims particularly against large truck companies were occasioned not by actual damages involved but through ridiculous claims made possible through the anti-truck prejudices built up among the average jury member. It was felt that if the campaign could be established on a nation wide basis, public opinion would be benefited to the extent that juries would no longer have a basic prejudice against the industry.

G. D. Sontheimer of ATA reported that already several hundred large truck users had subscribed to the program, including the decal, while others had subscribed without

[TURN TO PAGE 118, PLEASE]

Newly elected Safety Council officers (no photo available) are: Morton R. Youngman, Super Service Motor Freight, chairman; Beeman Carrell, Red Ball Motor Freight, 1st vice-chairman; Roy M. Wilkins, Associated Transport, 2nd v-c; and Max Jensen, Consolidated Freightways, 3rd v-c



BODY of the MONTH

Designed and Copyrighted 1951

By E. M. Westberg

DESIGN No. 5 of No. 3 Series

THIS BODY DESIGN, the fifth of three series, represents a slightly modified version of a Package Delivery. The original of this design was developed for an operation requiring this particular type unit for package deliveries to retail outlets in a large eastern metropolitan area.

Three basic conditions were set forth at the time the request to develop this design was made. First, the firm that was to operate the unit had for many years appreciated the value of prestige and distinction in its merchandising methods. Therefore, the management set forth dis-

tinctive appearance as a prime requisite, because this unit was to be used in crowded business areas where full advantage of its advertising value were to be realized.

The other two conditions were that it was to be built by a local custom body builder, and that costs be kept at a reasonable level. All conditions were met, and the final result was considered a most satisfactory unit.

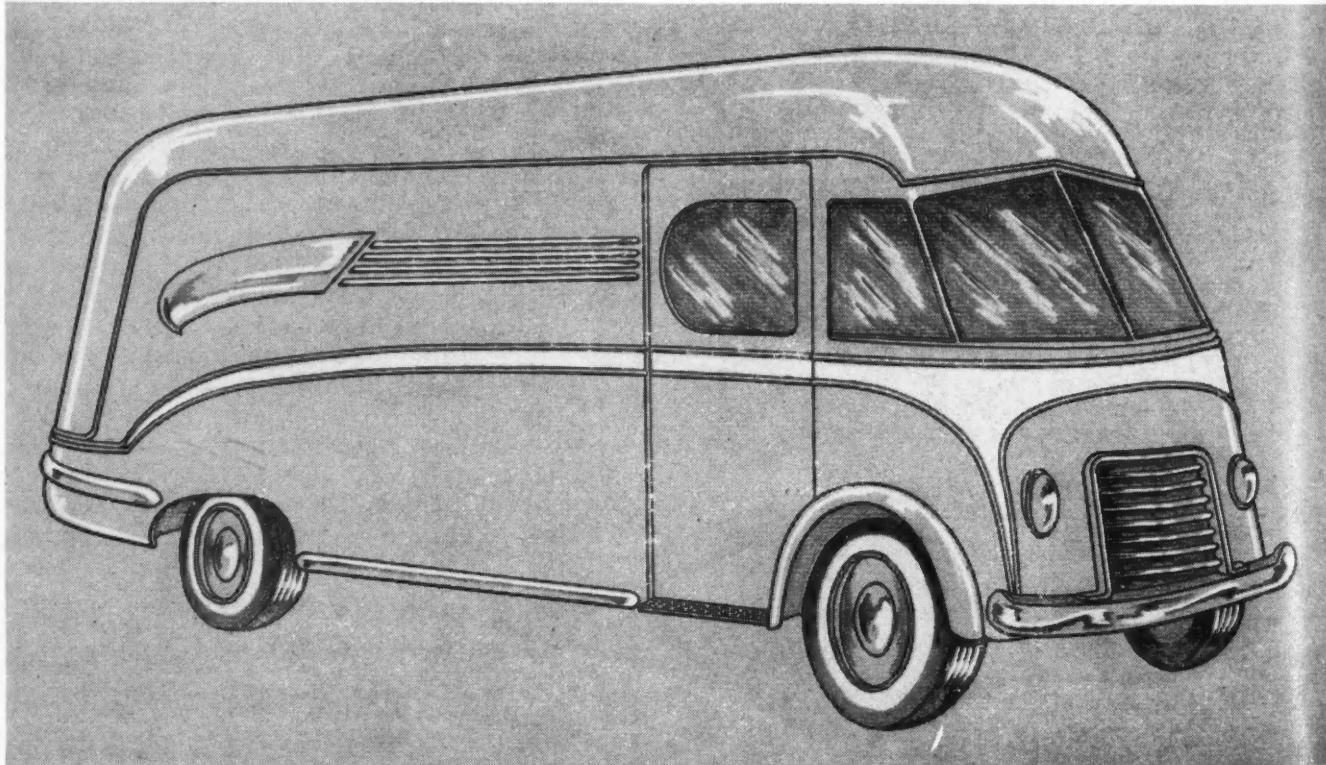
To ease the local builder's problems in keeping costs at a reasonable level and to hold his construction time to a minimum, it was found, by careful study and analy-

sis, that the greatest portion of the body could be constructed from ready available prefabricated parts and non-critical materials.

This same approach can be applied to many other types of bodies, and it is strongly recommended that it be carefully considered, by both body builders and fleet operators; when making plans and preparing budgets for new equipment.

Appearance Features

THE distinctive appearance of this body design is accomplished by a semi-vee type front end, which is a



High Individuality

Prototype of this highly attractive body was a custom job employing standard prefab parts that cut production time and cost to the minimum. Vee-front has high visibility

deviation from the more common oval type in use today. This also provides a functional advantage over present front ends, relative to visibility, which is discussed in greater detail under "operating features."

The end-to-end streamlined, double belt moulding treatment not only enhances the overall appearance of the unit but provides a means whereby many different two- and three-tone color combinations may be used.

As an added touch of distinction, a modern moulding and lettering background treatment is employed to better blend the lettering into the

overall lines of the body. For those who prefer the ultimate in distinctive appearance, it is suggested that the moulding have a highly polished finish and that the lettering, or lettering background, be of highly polished cast metal.

Special attention is called to the generously crowned roof, which

tapers in the amount of crown used from front to rear. This particular feature is accomplished in a very simple manner with prefabricated standard parts.

The use of standard ball and roof corners, with large radii, and oval rub rails tends to soften what would otherwise be harsh, sharp lines.

Operating Features

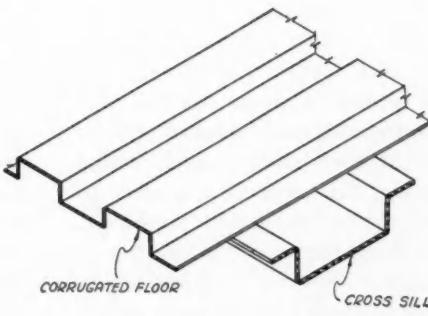
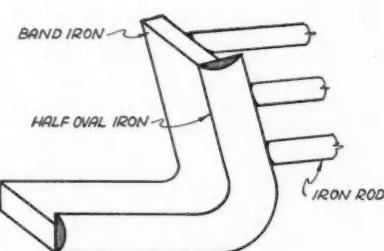
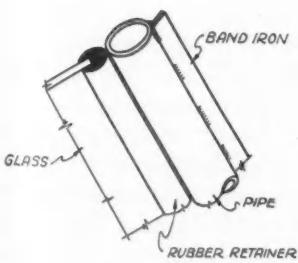
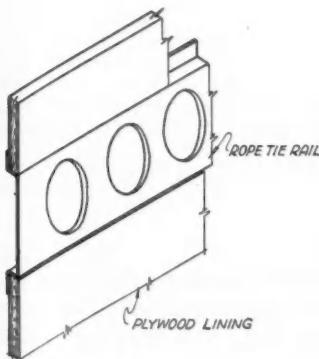
THIS distinctive design can very easily be built to suit the exact body size requirements of the product being delivered. Also no makeshift arrangements are necessary to meet any fixed and rigid size standard.

The body is readily adaptable to numerous interior arrangements requiring such items as partitions, cross or longitudinal racks, and different floor levels to accommodate high or low articles. For example, Fig. 3, in the group of small sketches, shows a means whereby unlimited rope-tying facilities may be provided by the use of a prefabricated inside steel belt rail. One or any number of these may be used at any specific heights required.

V-Front Adds Visibility

RATHER generous visibility is provided over that in conventional oval and the more squared front ends which, of course, is most helpful to

(TURN TO PAGE 158, PLEASE)



Are You Complying Fully with the Wage-Hour Law?

**Former wage-hour inspector finds fleet
operators are not fully acquainted with
the law and may face punitive lawsuits
for non-compliance or misinterpretation**

▼ ACCORDING TO RECENT government reports, employer investigations under the FLSA (Fair Labor Standards Act), amended, revealed instances of deliberate disregard of the overtime provisions; improper computation of the regular rate of pay; misapplication of exemptions provided for executive, administrative, professional and sales employees, and inadvertent clerical errors, not to mention falsification of records in a few hundred establishments thereof.

On the other hand, this writer discovered that most carriers unwittingly violated the rules and regulations; primarily, as a result of misunderstanding.

Not knowing the rules could cause fleet operators to subject themselves to:

1. Injunctive litigation.
2. Criminal action.
3. Suits brought by employees; where double damages are a probability under the law.

When wage-hour inspectors drop in, will your management be able to prove its compliance with this regulation?

EDITORS' NOTE—After more than 11 years, Congress made sweeping changes in the Fair Labor Standards Act, 1938. On January 25, 1950, the new amendments became effective. This article contains a number of suggestions

for fleet operators seeking detailed, authoritative information. It is a combination of official requirements and experience of the writer as a former wage-hour inspector who, heretofore, checked a number of motor carriers.

Fundamental Factors

PRIOR to a discussion and analysis of what appear to be the least understood sections of the Act—exemptions, record-keeping requirements, and overtime computation—might be well to point out that Section 6 provides for a minimum wage rate of 75 cents an hour, and Section 7 provides for overtime pay after 40 hours, unless specifically exempted.

The main theme of this portion is that motor carriers' employees are affected by the FLSA the same as any other type of employee. However, it is to be noted that coverage under

the minimum wage and overtime provisions of the FLSA does not deal in a blanket way with industries as a whole. It is primarily an individual matter, depending upon the nature of employment of each employee.

Clarification of Exemptions
SECTION 13(b)(1) of the FLSA provides an exemption from the maximum hours and overtime requirements of Section 7 of the Act, but not from the minimum wage requirements of Section 6. The exemption is applicable to "any employee with respect to whom the Interstate



CONFIDENTIAL INFORMATION FORM
(For Division use only)

ALL INFORMATION FURNISHED WILL BE HELD ABSOLUTELY CONFIDENTIAL

TO PERSON FILLING IN FORM: Fill in as completely as possible.
If any answer is not known, so state.

Form Approved:
Budget Bureau No. 44-R304.5
For office use only:
Name: _____
W.H. _____ P.C. _____
Both _____

1. INFORMATION ABOUT ESTABLISHMENT

(a) Name of establishment _____
(b) Address _____ (number and street) (City) (Zone) State _____
(c) Does the firm have branches? _____ Where? _____
(d) Nature of business _____ (Example: manufacturing stoves, construction, wholesale shoes, mining, trucking oil, etc.)
(e) Does establishment ship out of state? _____ Does establishment receive goods from out of state? _____
(f) Does the establishment sell to or perform services for the following types of business? (Check):
____ Private consumers ____ Transportation companies
____ Hotels, Restaurants, etc. ____ Other public utilities
____ Retail dealers ____ Mining companies
____ Wholesale dealers ____ Manufacturers

(g) Has establishment worked on a U.S. GOVERNMENT contract recently? _____ What articles? _____

2. INFORMATION REGARDING WORKING CONDITIONS

(a) Person furnishing information is _____ (Example: present employee, former employee, competitor, union, etc.)
(b) In what respect do you think that the establishment has failed to comply with the Federal Wage and Hour Law or the Walsh-Healey Public Contracts Act?
Minimum Wage Overtime Oppressive Child Labor Record Keeping Illegal Home Work Other
Describe: (If additional space is needed, please use reverse side)

(c) What is basis of pay of employee involved? \$ _____ per _____ (Example: hour, day, week, month, piece, etc.)

(d) Describe occupation _____
Name in full (print): _____
Signature: _____ Telephone No.: _____

Address (print): _____ Date of Birth: _____ (If under 21 years old)

DO NOT FILL IN BELOW THIS LINE - FOR OFFICE USE ONLY

Received at _____ Date _____
Taken by _____ Title _____
Forwarded to _____
Material given person _____

When the wage-hour inspector calls, he may want answers to these questions

Commerce Commission has power to establish hours of service pursuant to the provisions of Section 204 of the Motor Carrier Act, 1935."

The Act confers no authority on the Administrator to extend or restrict the scope of this exemption. It is settled by decisions of the U. S. Supreme Court that the applicability of the exemption to an employee, otherwise entitled to the benefits of the FLSA, is determined exclusively by the existence of the power of the ICC, under Section 204 of the Motor Carrier Act, to establish qualifications and maximum hours of service.

By
Robley D. Stevens, LLB., J.D.

It is not material whether such qualifications and maximum hours of service actually have been established by the Commission; the controlling consideration is whether the employee comes within the power of the Commission to do so.

The exemption is not operative in the absence of such power, but an employee with respect to whom the

**Wage Stabilization Board's
Regional Offices**

Fleet operators having occasion to contact representatives of the Wage Stabilization Board will find its regional offices located in the cities listed below.

Region I—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut. Regional office at Boston.

Region II—New York and New Jersey. Regional office at New York.

Region III—Pennsylvania and Delaware. Regional office at Philadelphia.

Region IV—District of Columbia, Maryland, Virginia, West Virginia and North Carolina. Regional office at Richmond.

Region V—Tennessee, Mississippi, Alabama, Georgia, South Carolina and Florida. Regional office at Atlanta.

Region VI-A—Ohio and Kentucky. Regional office at Cleveland.

Region VI-B—Michigan. Regional office at Detroit.

Region VII—Wisconsin, Illinois and Indiana. Regional office at Chicago.

Region VIII—Minnesota, North Dakota, South Dakota and Montana. Regional office at Minneapolis.

Region IX—Nebraska, Iowa, Kansas and Missouri. Regional office at Kansas City.

Region X—Texas, Oklahoma, Arkansas and Louisiana. Regional office at Dallas.

Region XI—Wyoming, Utah, Colorado and New Mexico. Regional office at Denver.

Region XII—California, Nevada and Arizona. Regional office at San Francisco.

Region XIII—Washington, Oregon and Idaho. Regional office at Seattle.

Commission has such power is excluded, automatically, from the benefits of Section 7 of the FLSA.

Section 204 of the Motor Carrier Act, 1935, provides that it shall be the duty of the ICC to regulate common and contract carriers by motor vehicle as provided in that Act, and that "to that end the Commission may establish reasonable requirements with respect to . . . qualifications and maximum hours of service of employees, and safety of operation and equipment." Section 204 further provides that it shall be the duty of the Commission to "establish for private carriers of property by motor vehicle, if need therefor is found, reasonable requirements to promote safety of operation, and to that end prescribe qualifications and maximum hours of service of employees, and standards of equipment."

(TURN TO PAGE 134, PLEASE)



FOR YOUR CONVENIENCE USE THIS POSTCARD

A selected list of the latest literature —
catalogs, pamphlets, charts—chosen to help
fleetmen improve operation and maintenance.

L91. Welding Manual

This 44-page "Manual of Welding Engineering and Design" showing the use of low temperature welding alloys will serve as a useful guide to new potentialities of the welding science in fleet work. Published primarily for users of Eutectic alloys, the information covers such methods of heating as torch joining, arc joining, induction joining, furnace joining and inert gas-shielded arc joining. A wealth of design information is provided. Recommendations are given for square butt joints, lap joints, flange joints, beveled butt joints, fillet welds and overlays. In addition information is outlined on fluxing and the removal of the flux, inspection and control of welds, heat treating of various welded parts.

Scores of photographs and line drawings help to illustrate each point. A series of joining alloy selector charts is included, and rod recommendations and other welding data are provided.

Welders will want to write L91 on the accompanying postcard and add this booklet to their files.

L92. Safety Training

As the opening gun, in a stepped-up program to interest the small business in the economic and social benefits of accident prevention, the National Safety

Council is distributing a booklet called "Safety Pays the Smaller Business." Fleet maintenance shops will be interested in the 24-page booklet as it provides valuable information on the setting up of such programs. Aimed at the owner or the shop superior, the booklet adds up the direct and indirect costs of accidents, shows how the accident rate can be lowered through an efficient, well-planned safety program.

Let this booklet provide the nucleus of your safety planning. Write L92 on the postcard for a free copy.

L93. Fork Truck Tips

Sound caution and strict observance of sensible safety rules pay off for the fork truck driver as well as for his employer. A new booklet called "Safety Saves!" sets forth the "Do's" and "Don'ts" which experience has established as a simple, practical code of industrial truck operation. The various admonitions, presented in an easy-to-take, good-humored fashion, and pointed up by cartoons, are offered as an excellent "refresher course" for experienced operators, and as a helpful statement of fundamentals for those new at the job.

"Safety Saves" is a handy five-by-seven pocket size, 24 pages, and is

printed in two colors. Write L93 on the postcard for your copy.

L94. Body Selection Kit

It is now possible for a man to design and order his own truck body and still get a mass production job. This seemingly contradictory feat can be achieved with a model kit which the Fruehauf Trailer Co. supplies to prospective truck body buyers.

Although these are real production line bodies there are over 500 options which the buyer can exercise to make the body fit the needs of the particular business in which it is going to be employed.

The model kit enables the prospective purchaser to assemble his own model in cardboard for the purpose of studying the advantages of each set of options he is considering. When the model is assembled it provides a replica of the body desired.

A free copy may be obtained by writing L94 on the accompanying postcard.

L95. PM Manual

A new preventive maintenance manual has been published by GMC to show procedures for gasoline and diesel engine-equipped trucks. Revised in March, the new simplified plan has been tested and applied in all types of operations and features flexibility to tie in closely with modern equipment and trucking methods.

The new system uses an "A" service for gasoline vehicles driven three to six weeks or 1000 to 3000 miles, and a "B" service for trucks driven either three to six months or from 10,000 to 20,000 miles. Vehicle time in the shop has been reduced by the new system although more service work is performed at each interval. All work done is recorded on a single sheet. One of the most important assets of the new plan is the accurate scheduling of necessary work.

This new 32-page manual outlines the complete plan and shows exactly how to develop each procedure efficiently and quickly. Write L95 on the postcard for your copy.

L96. Story of Standards

A new 44-page, pocket-size booklet entitled "The Strange Case of the Seven-Sided Post Hole," contains a whimsical story of an industrialist who discovered the advantages of industrial, consumer and safety standards with regard to post holes. With illustrations and light reading matter, the author shows the how and why of national standards. You'll enjoy reading this story. Write L96 on the postcard for your copy.

P241. Air Brake Valve

The Wagner Electric Corp. has introduced a new high-capacity brake application valve available in two models, one equipped with a foot treadle and the other provided with an actuating arm for conventional pedal linkage.

Primarily designed for use in air braking systems of heavy-duty commercial vehicles, both types are completely interchangeable with high-capacity valves produced by other manufacturers. This streamlined valve has larger exhaust and intake ports than other Wagner foot application valves, thus allowing for a faster movement of a greater volume of air. Because of these enlarged ports and the use of larger diameter air lines, the new valve does away with the necessity of quick-release and relay valves in almost all cases, depending on the wheel base of the vehicle involved. The actuating arm valve is designed for use with the existing linkage; therefore, the pedal travel varies with each hook-up.

P242. Heavy-Duty Truck

A pneumatic-tired giant for out-of-doors handling of 15,000 lb loads has been added to the Clark Equipment Co. line of fork-lift trucks. The new "Yardlift-150" is maneuverable, due to a power steering unit controlled from a 22 in. steering wheel which may be operated manually in the event of engine failure. The manufacturer further states that another feature of the large truck is its extra-wide axle, designed to provide maximum stability under load.

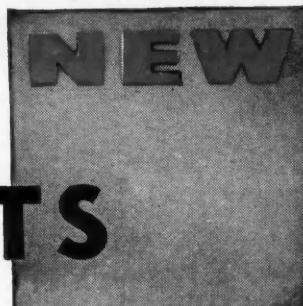
P243. Back-up Light

R. E. Dietz Co., Syracuse, N. Y., has introduced Model 210 back-up light, a heavy-duty model. The unit is finished in bright chrome, and comes complete with bulb and wiring. It has a clear glass lens and reenforced mounting.

P244. Arc Welding Tip

A new electrode holder has been designed by Cam Lock Division of Empire Products Inc., Cincinnati, Ohio. The maker states it will eliminate much of the waste motion and unnecessary fatigue in arc welding. The handle is the right size for the operator's hand, and the loading trigger is operated with one hand instead of two. In addition, the position of the jaws is said to eliminate rod bending, and will make welding in cramped quarters easier.

PRODUCTS



FOR YOUR CONVENIENCE USE THIS POSTCARD

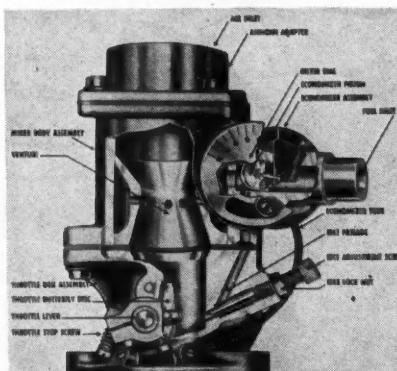
Illustrating and reviewing newest developments

in parts, accessories, shop equipment and tools.

For more information use the attached postcard.

P245. LP Carburetor

A new design for the 1400 series carburetor for truck and bus engines has been announced by American Liquid Gas Corp., Los Angeles. The manufacturer states that the new unit provides a much wider range of applications than any previous models.



For example, the old style Algas 1400 series carburetor was made in a two-piece assembly, the throttle box and the mixer-air horn assembly. The new design features three principle parts; the lower portion which contains the throttle box system, the center section which is the mixer, and the upper portion which is the air horn, either a straight or Donaldson type.

The unit may be used for either ver-

tical or horizontal installations. It is available in a wide range of manifold flange sizes.

P246. Helper Springs

A helper spring has been developed as an extra suspension help for both Hotchkiss and Transverse springs. The Gabriel Co. of Cleveland points out that the "Mono-Flex" helper springs absorb braking and starting torque, reduce side-sway and help maintain spring stresses well within safe limits without putting extra strain on the side members of the frame. In addition, the company states, when operating under normal weights, the auxiliary spring leaf does not interfere with the function of the main spring.

P247. Truck Mirror

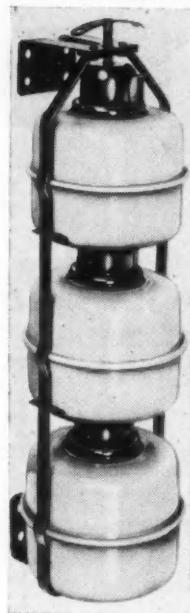
A fender-mounted mirror with a choice of round or square mirror heads has been introduced by Anthes Force Oiler Co., Ft Madison, Iowa, makers of safety equipment. The mirror has an adjustable base mounting with a regular round five and six inch mirror head or a 4x8 in. rectangular. These heads are rubber mounted, preventing a glass-to-metal contact.

(TURN TO NEXT PAGE, PLEASE)

New Product Descriptions

Continued from Page 77

P248. Signal Flares

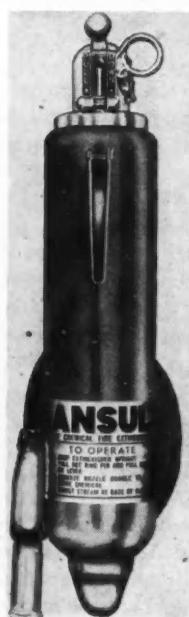


Two flame type kerosene flares—the bracket and box types—for emergency use with trucks or cars, are announced by Yankee Metal Products Corp., Norwalk, Conn.

The bracket type consists of three flares set vertically in a bracket, which can be locked for security. The flares themselves, finished in red enamel, can be used inside or outside the bracket. The updraft burners assure a steady, bright light in wind or rain.

In the other box type, the three burners are set in a heavy steel container. They can be mounted vertically or horizontally, and fit snugly enough to be rattleproof. Red flags, measuring 12 x 12 in. and with a wire staff, also are available. They can be folded and packed in the box.

P249. Dry Extinguisher



A four-pound dry chemical fire extinguisher with a rubber hose is now on the market, introduced by Ansul Chemical Co., Marinette, Wisc. In making their announcement, Ansul states that the advantages of the extinguisher are (1) ease of operation; (2) flexibility in fighting overhead and ground-level fires; (3) maximum extinguishing effectiveness for inexperienced operators.

P250. Engine Heater

An extension to General Electric's line of "Calrod" engine heaters has

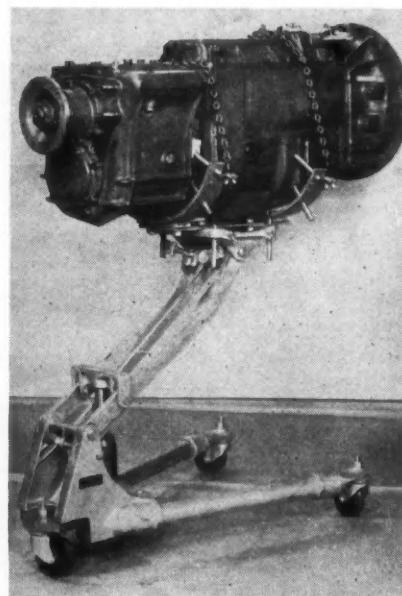
been announced by the Industrial Heating Division. The new model was developed specifically for installation in Chevrolet engines because standard heating units will not fit this make of truck.

The new heater aids starting in cold weather, according to the manufacturer, by pre-warming the coolant surrounding the engine block. In above-zero weather, the unit is operated for a short while before the engine is started. In sub-zero weather, it may be left on all night.

The unit is attached to the water jacket through the safety plug in the side of the engine block. A cylindrical heating unit becomes part of the circulation system. Lead wires are connected with standard 110-115 v house current.

P251. Heavy-Duty Lift

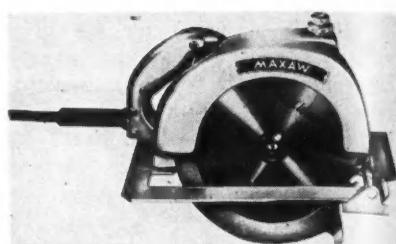
Accurate alignment in replacing under-chassis units is promised users of this new heavy-duty lift produced by the Automotive Division of the Cleveland Pneumatic Tool Co., Cleveland, Ohio.



The saddle of the lift tilts forward or backward to permit this accurate alignment. The new unit uses 4-in. casters for ease of movement. Shown in the photographs above, the unit is removing a 10-speed transmission weighing 1500 lb. The Aerol Lift has been tested by manufacturers and fleet shops including the service centers of White Motor Co.

P252. Power Saw

This compact power saw has recently been added to the Fred W. Wappat line of power tools. The manufacturer has pointed out several features of the saw, among them, its



light weight and its cutting ability.

The saw weighs 14 lb, and is constructed of a frame of die-cast aluminum alloy. The motor operates on 115 v AC-DC at a speed of 4600 rpm without load. It cuts 2 5/8 in. lumber on a square cut and 2 3/16 in. at a 45 deg angle.

P253. Spark Tester

A firing indicator which provides a check for voltage being supplied to the spark plug has been introduced by Champion Spark Plug Co. By a series of indications, trouble may be easily checked, the manufacturer states.

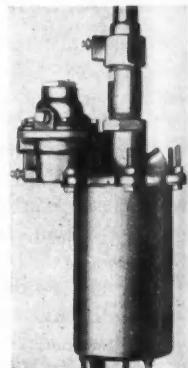
Single brilliant flashes occurring inside the instrument each time the spark plug fires indicates normal ignition and full voltage buildup. Variations from this normal flashing indicate trouble, which may also be checked at various parts of the ignition system.

P254. Drill Selector

An indexing drill selector for fractional size drills from 1/16 in. to 1/2 in. has been announced by the W. A. Horejsi, Minneapolis, Minn. The device may be mounted on the drill press column or on a nearby bulkhead. Drill sizes are clearly marked on the side of the holder which revolves on its supporting bracket.

P255. Air Power Brake

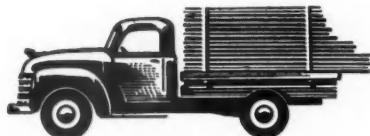
A power braking system similar in operation to the Hydrovac has been announced by the Bendix Products Division, Bendix Aviation Corp., South Bend, Ind. The new unit is intended for use with air supply instead of vacuum.



On Any Truck



When You Carry Overloads—You need



Greater Power Brake Capacity!



(You Can Be Sure with)

Bendix
HYDROVAC

WORLD'S MOST WIDELY USED POWER BRAKE

BECAUSE IT'S "Load Rated!"

Bendix
PRODUCTS DIVISION
SOUTH BEND
INDIANA

No matter what type of trucks you operate, it's just common sense to install the *right* power brake for the job. That's why you owe it to yourself to talk to your Bendix Vacuum Power dealer. He can give you sound reasons why Bendix* Hydrovac offers greater economy and flexibility on any job—his statements are based on fact, too, because Hydrovac is the world's most widely used power brake. Make it a point to see your Bendix Vacuum Power dealer soon; because we believe that when you get the facts you'll be solidly sold on Bendix "Load-Rated" Power Brakes.


AVIATION CORPORATION
*REG. U. S. PAT. OFF.

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Combustion Chamber Deposits

A Factor of Engine Design

Deposits drastically affect fuel requirements and necessitate use of premium grade gasoline to offset malfunctioning engines

By J. B. Duckworth*

Research Department
Standard Oil Co.

ANTIKNOCK quality is a property that is built into today's motor gasoline. Its present high level, as measured by the octane-number scale, exists solely for the purpose of suppressing detonation. The current levels of quality are attained by specific processing methods or by a combination of processing methods and the addition of a knock suppressor in the form of tetraethyllead. The latter scheme provides the major share of gasoline distributed in the United States. The extent to which octane-number improvement is gained by processing methods or by the addition of tetraethyllead depends to a large extent upon economic factors and varies from one refinery to another.

Antiknock requirements of passenger cars, taken as a whole, vary over a considerable range and depend upon engine design, mechanical maintenance, and combustion-chamber deposits. The octane-number requirement of an engine entirely free of combustion-chamber deposits has little significance, for in service such an engine does not exist. On the other hand, octane requirement after several thousand miles of operation is significant, because it represents the practical octane-number level that must be satisfied. If the desired level

is attained in part by the addition of a knock suppressor, it follows that the octane-number increase must not be nullified by a corresponding increase

SAE Summer Meeting

Nearly 1300 automotive engineers and wives flocked to French Lick Springs Hotel June 3 to 8, to attend one of the most successful summer meetings on record. Between golf tournaments, skeet and trap shooting, dancing and other extra-curricular activities they heard technical papers on such subjects as automatic transmissions, effects of combustion-chamber deposits, methods of estimating fatigue life, automotive seating and design and production problems. In addition numerous technical committees convened during the meeting. Round table discussions were held on such problems as polishing vs repainting in fleets, diesel engine combustion systems, aspects of wear in engineering materials and automobile noise and vibration, among other subjects of interest to the industry. The Country Carnival, complete with sword swallower, fortune teller, hucksters, floor show and square dance was acclaimed a "howling" success.

in vehicle antiknock requirement. Likewise, such other factors as power output and engine life must not be unduly penalized by the addition of antiknock compounds.

Variables Affecting Deposits

THE quantity of deposits and the rate at which they accumulate in the combustion chamber depend primarily upon quantity of tetraethyllead in gasoline, combustion-chamber design, and engine operating conditions. To a lesser extent, deposit formation is affected by the type and consumption of lubricating oil and the composition of the gasoline base stock. For all practical purposes, these secondary variables were held constant during this investigation.

Experience gained from dynamometer tests, carried out in the laboratory with multi-cylinder engines under conditions of constant load and speed, had indicated that tetraethyllead content exerts a marked effect upon the amount of deposits formed. As a consequence, tetraethyllead content was selected as the primary variable in the service tests reported herein.

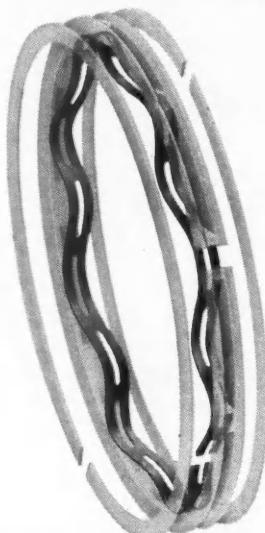
Engine operating conditions exert a tremendous influence upon the formation of combustion-chamber deposits. The three more or less distinctive types of service imposed upon a typical passenger car may be classed as city, suburban, and intercity. Typically, city driving consists of a series of start and stops associated with the usual household errands. In this type of duty, with the attendant light loads and low operating temperatures, deposits are accumulated at a relatively rapid rate. Suburban service is typified by commuter driving and may be classed as light to medium duty. The third classification — intercity — implies high-speed operation over considerable distances with fairly high engine operating temperatures. A car used predominantly in urban service will accumulate deposits at a faster rate than a car in suburban or intercity service. It is relatively simple

(TURN TO PAGE 118, PLEASE)

*—Excerpted from a paper presented at the SAE Summer Meeting, June 3-8.

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CORROSION, ABRASION



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BEST IN NEW TRUCKS

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Most New Legislation Good

**But New York ton-mile tax poses severe blow
to reciprocity in Eastern states. Herewith a
state by state review of new highway laws**

ALL BUT A DOZEN of the 44 legislatures meeting in regular session in 1951 have adjourned *sine die*. An appraisal of the results of these sessions as they have adjourned one by one indicates that most of the legislation enacted has been favorable to the operators of commercial vehicles, with a few exceptions.

Dire predictions of restrictive legislation against the operators of commercial vehicles have not materialized thus far.

A number of states have imposed rather drastic penalties on violators of size and weight limits. This is in accord with the action recommended by the Third Highway Transportation Congress and the policy of American Trucking Associations, Inc. The Transportation Congress "vigorously and unqualifiedly" condemned the practice of violation of weight laws and pledged its active cooperation and that of its member groups in all efforts toward elimination of this abuse.

Reciprocity may take a severe fall in the east because at the insistence of Governor Dewey and the railroads, among others, New York saw fit to impose a third structure mileage tax. This is particularly regrettable when there is no guarantee whatsoever that one cent of the receipts will go for highways. Reciprocity throughout the entire eastern part of the United States has been reasonably satisfactory to all highway users for many years. This condition was brought about gradually through the joint efforts of many commercial vehicle operators and other highway users and the state officials.

By Arthur C. Butler

Director, National Highway Users Conference

MARYLAND reduced the weight of tandem axles from 44,800 to 40,000 lbs., but increased the multiplying factor in the gross weight formula from 750 to 850. Maximum gross weight, however, is limited to 65,000 lbs.

MINNESOTA eliminated its formulae and provided gross weights based on axle spacing graduated from 28,000 lbs. if axles are spaced 4 feet apart to 66,500 lbs. if spacing is 42 feet or more.

NEVADA increased the weight for tandem axles from 30,800 to 32,000 lbs.

NORTH CAROLINA repealed the requirement that the motive power of vehicles or combinations in excess of 50,000 lbs. gross weight must have a piston displacement of at least 350 cubic inches.

OREGON amended its table of weights based on axle spacing to provide a maximum limit of 76,800 lbs. instead of 72,000 lbs.

TEXAS repealed its 48,000 lb. gross weight limit, eliminated its formula and also provided gross weights based on axle spacing graduated from 32,000 lbs. of spacing is 4 feet to 58,420 lbs. if spacing is 41 feet.

WEST VIRGINIA eliminated its formulae and provided gross weights based on axle spacing graduated from 32,000 lbs. if spacing is 4 feet to 73,280 lbs. if spacing is 57 feet, but another provision limits gross weight to 60,800 lbs.

WYOMING made slight changes in gross weights for various axle spacing between 11 feet and 56 feet, but

(TURN TO PAGE 114, PLEASE)

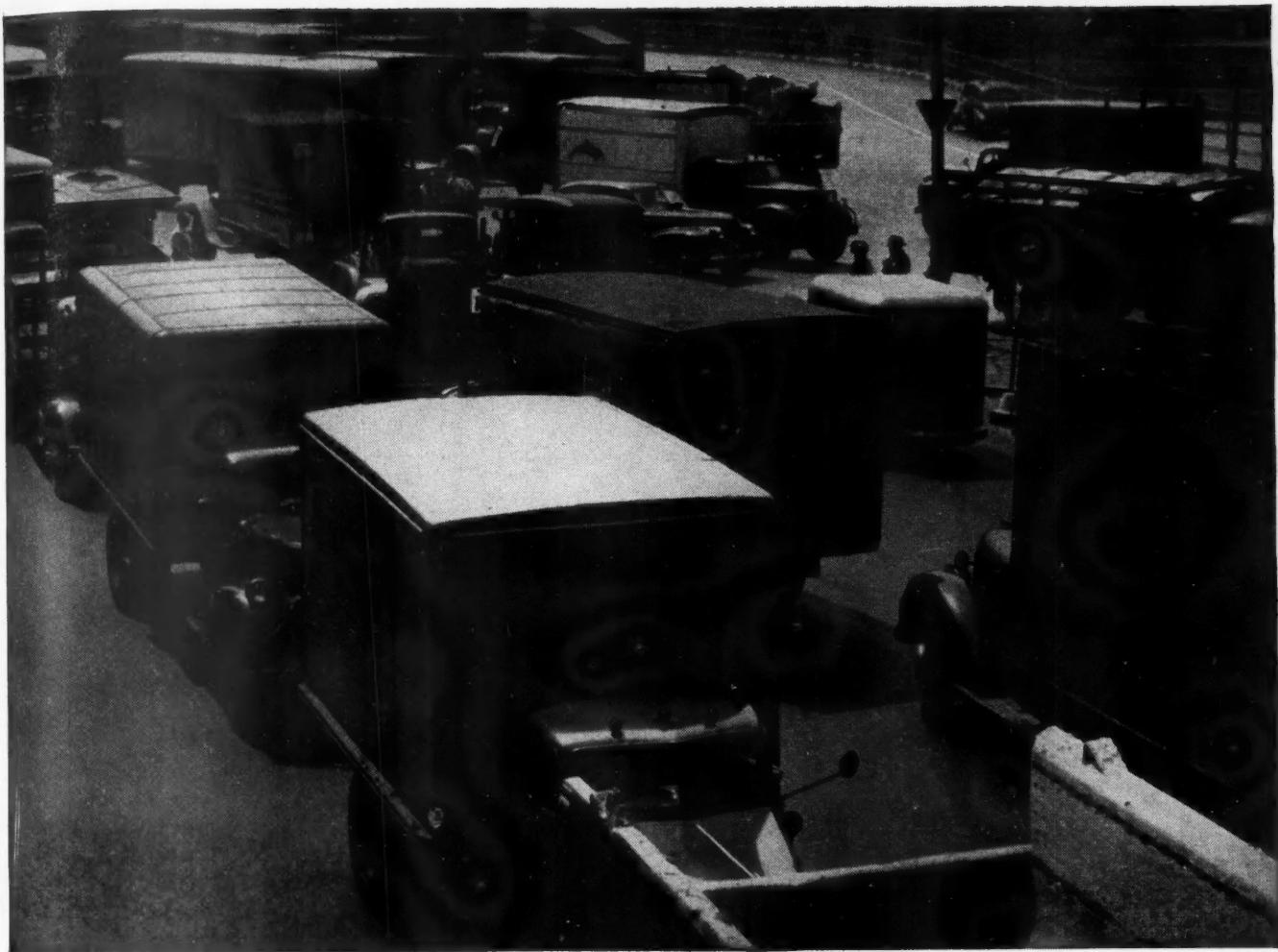
The action of the New York Legislature has resulted in the introduction of a mileage tax in the neighboring state of Pennsylvania. Shortly after the New York enactment, a prominent official of one of the New England States commented that his state imposed no comparable tax on non-resident trucks and several of the New England legislators have indicated that their states might consider this form of taxation at their next legislative sessions. Thus it becomes apparent that the efforts and the work of numerous people interested in the welfare of highway transportation are placed in jeopardy by the action of one state legislature in this area.

Details of the more important legislation enacted thus far follows:

Sizes and Weights

GEORGIA and MICHIGAN increased length of common carrier buses from 35 to 40 feet.

IOWA increased height limit for automobile transporters from 12½ to 13½ feet.



Reduce costly maintenance time with help of **Exide** Batteries

Keep your trucks rolling . . . doing a full-time job, day after day in all kinds of weather. Ruggedly-built, long-lasting Exide Batteries can help. For when your trucks are Exide-equipped, battery maintenance time and maintenance costs are practically nil.

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on dependable Exide Batteries. Measured by performance or operating and maintenance costs, Exide is your best battery buy at any price.

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1888 . . . DEPENDABLE BATTERIES FOR 63 YEARS . . . 1951

Exide has *EVERYTHING*

Surplus STARTING POWER

Extra LONG LIFE

LOW COST PER MILE OF OPERATION

WHEN IT'S AN EXIDE YOU START



TODAY it is the operator's duty to balance wheels in order to save tires. Wheel unbalance is one of the most costly service difficulties, yet it is one of the easiest and cheapest to correct. While unbalanced wheels rolling at 10 mph are hardly noticeable, at 20 mph, the effect of the unbalanced condition is multiplied four times. At 30 mph it is nine times and 40 mph, 16 times as much. At 40 mph, just eight ounces of unbalance will develop a 21-lb vibrating force. A 20-oz out-of-balance condition at this speed yields a vibrating force of 52 lb. It is common for truck wheels to be from two to four pounds out of balance and, of course, many trucks are driven at higher speeds.

The effects of wheel unbalance are first and always expressed in terms of cupping and scuffing tire wear. Tire wear is reduced 10 to 50 per cent. Also, up to 80 per cent of the causes of front end troubles are eliminated by wheel balancing.

It is simple to determine wheel unbalance. Just jack the front wheels up off the ground. In most cases a heavy spot will pull the wheel around until that spot is at the bottom. If a wheel spinner is applied to a statically unbalanced wheel, tramp is quickly revealed. The spun wheel may actually jump several inches up and down. A spinner is also helpful in revealing dynamic unbalance. The wheel starts to wobble as the rate of spinning is increased.

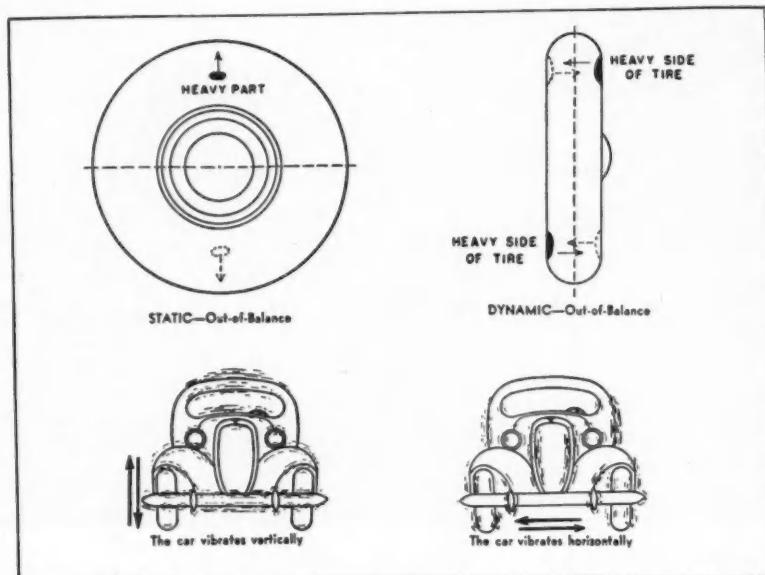
Here's how to use a wheel spinner: Place a jack directly under the center of the front end and place a wheel spinner against one of the front wheels. Spin the wheel at 50 to 60 mph. The vibration is immediately noticeable. For further evidence, open a door and watch it jump. The vibration you can feel by placing a hand on the fender is proof of the shaking action that goes on in front-end parts when wheels are unbalanced.

Static unbalance occurs when the weight of a wheel and tire assembly is unevenly distributed about the axis of rotation. The most common symptom is road tramp, or pounding of the road by the heavy spot. At times the vehicle may actually gallop. Tire tread will wear off in spots because the tire will be bouncing off the road every time the heavy spot hits. When the tire again hits the road, rubber is scraped off the tire. Thus, a flat spot

(TURN TO PAGE 173, PLEASE)

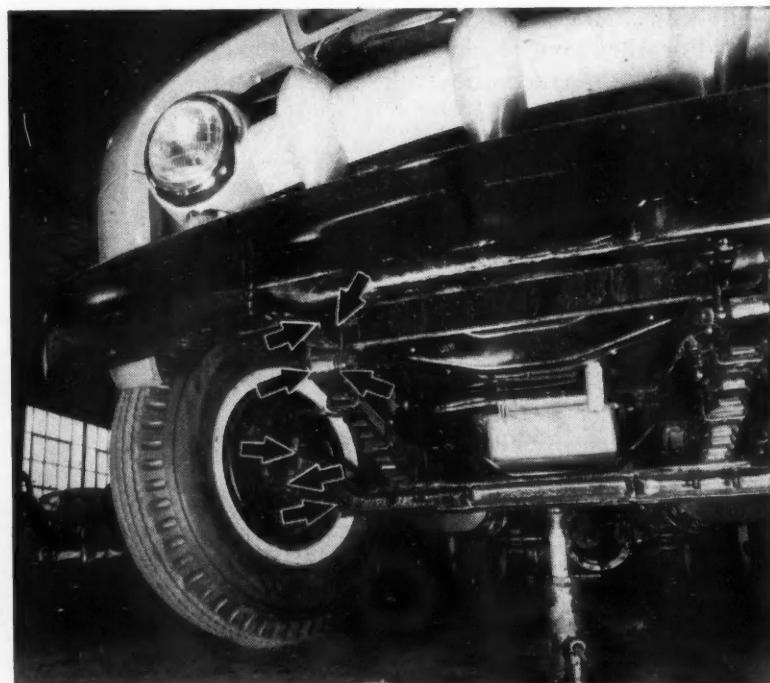
BALANCED WHEELS SAVE TIRES

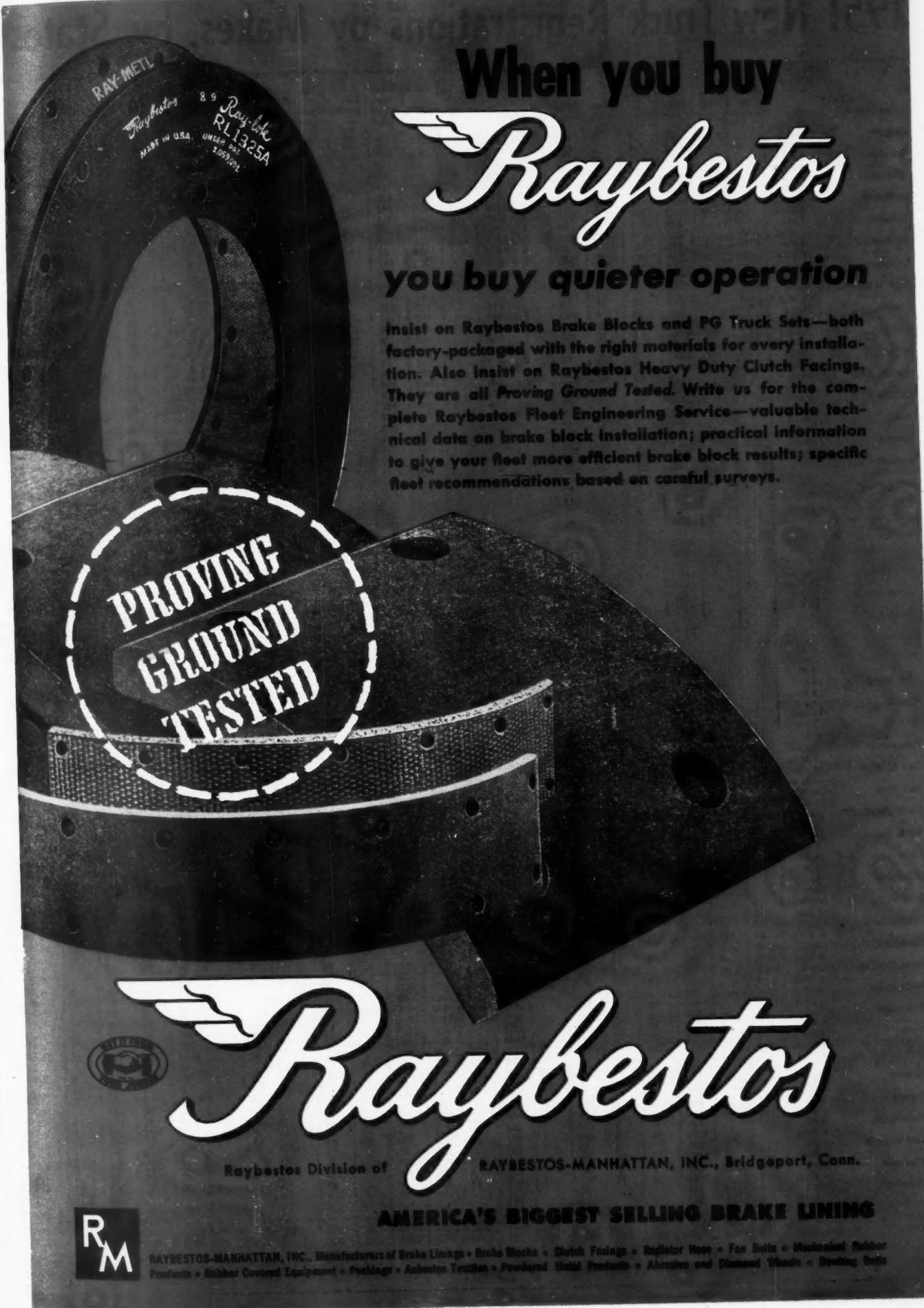
Tire wear, steering failures, parts breakdown, and driver fatigue result from poor wheel balance



Drawings show effects of 1. static unbalance, and 2. dynamic unbalance. This vibration causes wear. Below. Arrows show seven points of wear in steering and suspension system with unbalanced wheels.

Photos courtesy of Wheel Weights, Inc., Detroit.





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Insist on Raybestos Brake Blocks and PG Truck Sets—both factory-packaged with the right materials for every installation. Also insist on Raybestos Heavy Duty Clutch Facings. They are all Proving Ground Tested. Write us for the complete Raybestos Fleet Engineering Service—valuable technical data on brake block installation; practical information to give your fleet more efficient brake block results; specific fleet recommendations based on careful surveys.

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1951 New Truck Registrations by Makes, by States*

STATE	Auto-car	Brock-way	Chevrolet	Diamond T	Divco	Dodge	Federal	Ford	FWD	GMC	International	Kenworth	Mack	Peterbilt	Rao	Sterling	Studebaker	White	Willys	All Others	Total		
Alabama	April	579	2	1	140	1	573	197	122			17		4	44	21	39	1	1,844				
	4 Mos.	3	2818	5	8	657	2	1932	763	501		72	17	235	87	137	9	7,246					
Arizona	April	173	1	3	52	2	133	67	35	2	3	1	22	3	22	4	523						
	4 Mos.	2	640	3	5	267	2	498	215	149	3	8	4	3	75	17	55	9	1,985				
Arkansas	April	692	1		156		490	257	137			2	7	57	11	23	2	1,840					
	4 Mos.	2	2661	5		618	1866	947	522			8	18	264	31	152	6	7,120					
California	April	25	1487	33	28	525	2	1168	6	536	340	13	40	23	18	5	150	43	3	4,525			
	4 Mos.	84	2	6873	116	210	2815	5	5389	26	2880	1527	76	150	93	63	43	808	233	456	31	21,859	
Colorado	April	4	378	2	3	86	4	298	1	143	109	1	9	7	35	4	49	5	1,126				
	4 Mos.	19	7	1657	6	22	420	8	1215	2	528	428	11	28	26	137	14	171	9	4,704			
Connecticut	April	7	8	228	12	4	87	6	166	69	72		23	4	2	20	19	19	2	748			
	4 Mos.	19	25	848	43	32	340	16	581	220	267		132	18	2	66	45	91	12	2,757			
Delaware	April	2	2	88		15		82		19	24		2		4	1				239			
	4 Mos.	3	4	340	7		99		288	1	70	104		8	3	29	10	8	4	978			
Dist. of Columbia	April	2	92	11	2	33		51		46	19	1		7	3	6	8			274			
	4 Mos.	4	1	419	17	18	98		212	117	125		11		7	6	13	24	1	1,091			
Florida	April	681	16	4	254	1	505	180	101			31		7	84	18	80	19	1,981				
	4 Mos.	6	2461	50	29	1101	2	1696	2	606	496	136		59	362	80	352	53	7,496				
Georgia	April	1	791	3	2	157	1	609	250	228	1	28	9	1	81	26	44	2	2,234				
	4 Mos.	7	4086	14	11	1008	6	3081	2	984	863	1	112	35	1	487	88	200	23	10,963			
Idaho	April	158	6	1	68	5	112	104	75	5	8	1	20	7	40	1	612						
	4 Mos.	630	17	4	225	7	446	1	360	240	23	24	4	1	109	18	149	2	2,280				
Illinois	April	7	1657	52	14	663	4	1040	449	586		30	13	131	68	63	25	4,811					
	4 Mos.	21	3	5079	233	79	2232	12	3852	3	1459	2116	139	68	2	407	251	259	53	15,968			
Indiana	April	1	999	12	13	320	2	808	1	240	407	48	19	142	75	48	6	3,139					
	4 Mos.	2	1	3338	39	36	1136	8	2590	1	759	1637	99	57	484	252	191	15	10,679				
Iowa	April	677	14	3	212		643	142	289	5		2		59	13	23	2	2,088					
	4 Mos.	1	2634	43	19	734	1	2084	557	1051		31	14	225	66	91	4	7,558					
Kansas	April	573	4		120		375	160	210			1		42	6	31	1	1,528					
	4 Mos.	2301	15	10	532	4	1511	642	772			2	11	181	31	133	2	6,150					
Kentucky	April	582	6	1	132	1	457	129	133			5	5	46	9	60	1	1,517					
	4 Mos.	1	2425	27	8	582	4	1543	634	607		28	17	211	57	121	11	6,378					
Louisiana	April	603	2		97		485	171	126			5	1	50	7	32	3	1,533					
	4 Mos.	2	2226	35	5	447	1	1913	5	722	501	12	3	247	26	136	7	6,299					
Maine	April	3	3	237	2	2	57	3	173	68	58		12		28	5	17		678				
	4 Mos.	6	7	700	3	3	160	6	515	203	196		51		66	23	61	4	2,007				
Maryland	April	2	13	356	4	15	133	4	288	97	108		27	1	17	33	23	4	1,127				
	4 Mos.	13	34	1269	10	32	467	23	382	1	287	374	80	20	66	53	65	5	3,751				
Massachusetts	April	23	5	473	13	22	187	5	388	2	142	136	43	13	3	44	42	29	3	9,178			
	4 Mos.	94	43	1555	52	49	613	21	1295	2	421	448	150	51	18	121	143	93	14	5,184			
Michigan	April	6	1261	9	27	422	8	1007	311	235		25		67	21	31	4	3,453					
	4 Mos.	25	5076	41	82	1511	40	4440	1130	1024		67		119	257	113	152	13	14,140				
Minnesota	April	669	7	9	218		500	3	137	218	1	4	6	103	15	61	7	1,983					
	4 Mos.	2201	18	18	794		1725	11	574	818	2	22		235	49	166	15	6,720					
Mississippi	April	673	2		126	1	482	280	130			8		40	23	33	3	1,785					
	4 Mos.	2332	3		533	1	1716	901	515			31		183	23	221	3	6,483					
Missouri	April	1	1053	8	40	263	1	658	313	280		3		72	69	32	3	2,811					
	4 Mos.	3	4205	25	75	1267	1	2764	1333	1017		25		333	212	149	9	11,446					
Montana	April	305	6		54	1	177	3	81	99	3	2	2	4	21	2	53	2	820				
	4 Mos.	618	19	1	213	2	531	3	318	322	8	14	5	23	107	23	236	2	2,712				
Nebraska	April	582	15	2	90		354	151	170	5	8	3	3	37	11	39	1	1,474					
	4 Mos.	2170	65	5	397		1412	1	566	703	17	33		12	183	44	156	4	5,765				
Nevada	April	56			19		39		27	11			1		2	8			163				
	4 Mos.	195	1		75		126	1	136	58			1		15	30	638						
New Hampshire	April	1	3	103		25	1	132	37	40			22	1	13	3	20	1	403				
	4 Mos.	6	7	419	3	3	144	3	361	137	129		54		11	53	53	3	1,386				
New Jersey	April	13	32	764	13	21	221	7	559	184	186		50		9	3	52	5	2,210				
	4 Mos.	86	179	3159	53	107	911	32	1922	4	775	732	242	47	10	170	181	245	3	8,086			
New Mexico	April	166			23		90		56	31			2		10	2	11	3	391				
	4 Mos.	947	2		190		513	2	333	154	2	8	1	1	95	5	72	3	2,328				
New York	April	32	88	1653	46	48	563	8	1050	447	450		156		36	3	82	98	124	23	4,917		
	4 Mos.	137	354	5708	246	149	2105	71	3456	25	1563	1776	657	241	19	359	456	513	133	18,274			
North Carolina	April	9	612	2	10	167		576	255	141			63		4	2	51	53	13	2,135			
	4 Mos.	40	4	3426	8	28	745	3	2267	1	1089	733	242	18	2	333	127	169	92	9,333			
North Dakota	April	206			58		127		61	58			1		81	1	73	3	2,031				
	4 Mos.	661	4	1	240		509		181	274			1		92	93	93	14	3,643				
Ohio	April	10	2	1223	31	21	472	6	853	3	353	349	55	21	115	473	501	419	67	16,920			
	4 Mos.	49	9	5735	111	110	1864	28	3995	8	1389	1831	215	115	1	47	25	26	1	1,747			
Oklahoma	April	680			9	125		484	2	183	161	3		1		183	72	121	5	6,510			
	4 Mos.	2545	2	23	603	1	1733	23	539	586	8	8	17		11	9	6	1	306				
Oregon	April	1	423	11	4	133	1	229	131	154	5	24	1	1	2	23	6	78	3	1,232			
	4 Mos.	2</																					

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TO MOVE BIG LOADS . . .



More power for bigger payloads . . . that's what every truck owner wants today. And, that's exactly what you get with new, extra-sturdy, extra-powerful Federals! You profit by the fact that Federal Heavy-Duty Trucks are all-truck, all the way through. Designed right . . . built right . . . powered right . . . Federal Trucks are backed by more than 41 years of

specialized truck building experience. This experience adds up to greater operating economy, lower maintenance cost and bigger payload profits for you. You'll find a wide range of models, both gasoline or diesel powered, with gross ratings to 90,000 lbs., designed to meet your most exacting requirements. Write for illustrated booklet today!

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President's Conference Challenges Nation

THE ACTION PROGRAM for safer motor vehicle transportation was given strong new impetus at the President's Highway Safety Conference in Washington, when 2000 leaders from industry selected points of emphasis to

best meet the needs of the national emergency and to turn back the upward trend in the traffic fatalities. Eleven panel sessions were devoted to specific sections of the Action Program and one general audience participation

program was held on how to make the program most effective.

In the final session, the Conference declared that adoption of the program by all states and cities "would result in reducing the death rate from its present level of 7.5 per hundred million vehicle miles" of travel to five or less within the next year."

Keynoting the opening session, the President pointed out that "highway accidents strike directly at our national strength" at a time when the urgent need is to "make our country stronger."

"The defense effort depends upon the efficient movement of goods and people over public roadways," he declared. "Highway transportation, like railway transportation is indispensable to production on our farms and in our factories, and to every phase of the nation's work."

The President sharply underscored the estimated annual economic loss of \$3 billion annually from traffic accidents as "a terrible price to pay for carelessness and inefficiency," and emphasized also the serious manpower losses. The first challenge, the President said, is to "improve our highway system," much of which, due to depression and war, "is worn out and obsolete. The replacement program has not kept pace."

The fifth annual Beecroft Award was presented to Rudolph F. King, Massachusetts Registrar of Motor Vehicles, by Dale Roeder, President of the Society of Automotive Engineers. In the absence due to illness of Hon. Philip B. Fleming, General Chairman of the Conference, Secretary of Commerce Sawyer presided.

In presiding at the general session devoted to promotion of the Action Program, William F. Devin, mayor of Seattle, and president of the American Municipal Association, declared:

"The Kefauver Committee did much to deglamorize crime. We need a similar move to deglamorize the boor of the highway. If we can ever make good driving commendable and poor driving unpopular we shall have gone a long ways toward licked our problem."

Mayor Devin declared that even though we have ideal laws, the finest police force, the best engineers and highways, we still will not have a successful safety program "unless John Doe, driver, understands his responsibility and carries it out when he gets behind the wheel of his car."

W. F. Hulstader, vice president, General Motors Corp., recommended a positive approach, getting facts and planning objectively. He said, "Public education on traffic safety is the prime requisite to public support. Such education must be geared to specific ob-

(TURN TO PAGE 90, PLEASE)

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ZEUS, the original voltage regulator

GENUINE P & D PARTS

REG. U.S. PAT. OFF

SWITCHES, VOLTAGE REGULATORS, DISTRIBUTOR HEADS, FUEL PUMPS, RELAYS & CUT-OUTS, COILS, CONDENSERS, DISTRIBUTOR ROTORS, RELAYS & CUT-OUTS.

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In the present period of emergency, it is more important than ever to *Buy High Quality Parts.*

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SAYS...

"In the millions of miles our units have
operated, we have never had an accident
due to the mechanical failure of

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nomical service from
the following terminals:

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Watertown, S. D.

Moorhead, Minn.

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Rock Rapids, Iowa

Sioux City, Iowa

Clear Lake, Iowa

October 20, 1950

Wagner Electric Corporation
111 South Twelfth Street
Minneapolis, Minnesota
Attention: Mr. McElman
Branch Manager

Dear Sir:
Our fleet of 100 trucks operates in
four states and is engaged exclusively
in the transportation of
petroleum products.

At Dugan's, we are proud beyond
words of the outstanding safety
record compiled by our fleet. During
1949, our fleet covered more than
9,000,000 miles without an injury.
Fundamental to such a record, as far
as mechanical equipment is con-
cerned, is a good, efficient braking
system — brakes which will operate
without fail.

* In the millions of miles our units
have operated, we have never had an
accident due to the mechanical
failure of Wagner Air Brakes.

Yours very truly,

DAN DUGAN OIL TRANSPORT CO.
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K51-57

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Dan Dugan Oil Transport Company, like hundreds of over-the-road truckers, have found that the dependability of Wagner Air Brakes have helped them in establishing outstanding records for safety and low brake maintenance.

Wagner Air Brakes are the product of more than twenty years of brake engineering experience gained in the manufacture of hydraulic brakes and brake parts for the automotive industry. The Rotary Air Compressor... Power Cluster... and other exclusive features are just a few of the reasons why Wagner Air Brakes are nationally recognized as the "best buy."

For real brake economy install Wagner Air Brakes now, or when ordering new vehicles specify Wagner. Get the facts. Write for Bulletin KU-201.

Safety Conference

Continued from Page 88

jectives, based on facts, and achieved through positive and persuasive appeals."

Efficient highways, uniform laws and ordinances, and good enforcement are absolutely essential if we are to have adequate highway transportation to serve the national defense, General

Frank A. Heileman, Chief Transportation, Department of the Army, told the second general session of the Conference.

Speaking of the highway problem in particular, he declared: "Of immediate importance is the need to evaluate the highway needs in the vicinity of expanding military and supporting industrial activities and to re-evaluate all highway needs in terms of a limited emergency when materials and manpower are in short supply. . . .

The automotive, tire and related industries, and especially their thousands

of dealers throughout the country, were reminded of the "big job still to do" in the improvement of traffic conditions at a special luncheon tendered during the Conference by the Inter-Industry Highway Safety Committee. Chairman James J. Newman, vice president of the B. F. Goodrich Co., called for the vigorous and cooperative effort of all industry groups and dealers in supporting community and state "action programs."

Deploring the fact that only slight gains have been made in collection and use of accident statistics, the Conference pledged a more vigorous drive to enlist public support for this work. A fundamental weakness, it was agreed, is the too-frequent collection of accident data without clear knowledge as to how the information is to be used. To remedy this weakness a resolution was adopted which urges research on accident causes, control of drivers with bad accident records, and engineering design as related to accidents.

In its report the Motor Vehicle Administrator's Committee stated that only 27 states and the District of Columbia are considered as having driver licensing laws in substantial conformity with Act II of the Uniform Vehicle Code. A resolution was adopted which calls for periodic re-examination of all licensees at least once every four years. The goal was also set up requiring special examinations for drivers of tractor-trailer units and all bus drivers. Deep concern was expressed in the failure of states to adopt periodical motor vehicle inspection.

This kind of

HOARDING IS LEGAL!

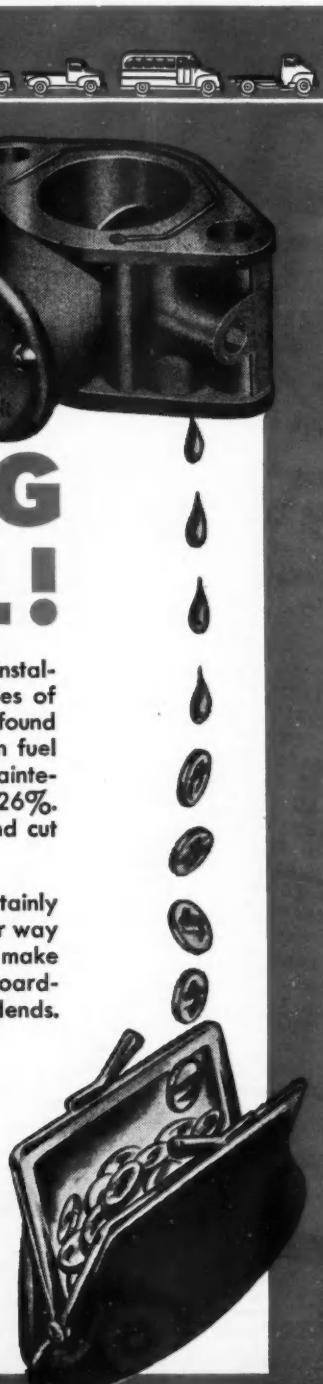
Here is what was accomplished just by the installation of Handy Governors on the vehicles of 180 truck fleets. The saving on tires was found to be 22.6%, on engine repairs 32%, on fuel 13.5%, on lubricants 26%, on brake maintenance 29.2% and general maintenance 26%. Furthermore it reduced insurance 16% and cut the cost of accidents 37%.

In the face of war shortages which will certainly get progressively worse is there any better way to conserve equipment and at the same time make substantial dollar savings? This kind of hoarding is not only legal but it pays good dividends.

Write for quotation on equipping the vehicles of your fleet with Handy Governors.

**KING-SEELEY
CORPORATION**

ANN ARBOR, MICHIGAN
PLANTS AT
ANN ARBOR, SCIO,
YPSILANTI



Bus Production Discussed

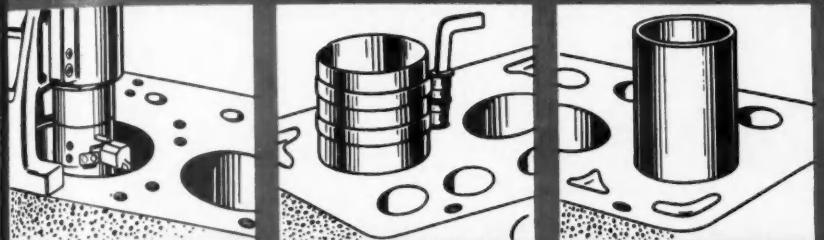
The Integral Bus Manufacturers Industry Advisory Committee and the National Production Authority have discussed a proposed NPA order that would assure production of a specified number of buses during the third and fourth quarters of 1951.

Like NPA Order M-68 (Passenger Cars), the proposed bus order would set the industry's authorized rate of production, for purposes of measuring the use of materials, with each company's relative standing in the industry listed in percentages. NPA said the order would also require monthly production reports from bus manufacturers to enable the agency to properly establish a company's percentage standing in the industry.

Of the 86,200 common carrier buses now on the road, the committee said about 22 percent need to be replaced. Bus operators normally replace their vehicles every 10 years, it was disclosed.

No. 1 Ring

For All Replacement Jobs



Re-bore Re-ring Re-sleeve



The Hastings Steel-Vent Piston Ring is engineered for replacement service—and for all replacement service. It's the right ring for every re-bore, re-ring and re-sleeve job.

And it's chrome-faced for heavy-duty service. It gives three to four times the life you'd expect—under tough, abrasive conditions. It gives greater resistance to wear, to scuffing, to acids under all conditions.

Automotive repairmen and fleet maintenance men say it saves money on every installation. It will pay you to install the Hastings Chrome Set in every heavy-duty job.

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN • HASTINGS LTD., TORONTO
PISTON RINGS • SPARK PLUGS • OIL FILTERS • CASITE • DROUT



HASTINGS

STEEL-VENT PISTON RINGS

CHROME-FACED for heavy-duty service

CCJ News Reports

Continued from Page 27

1951 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001- 10,000	10,001- 14,000	14,001- 16,000	16,001- 19,500	19,501- 26,000	Over 26,000	Total
January	50,435	21,029	6,476	16,957	5,528	5,657	3,180	109,262
February	43,207	16,940	6,639	14,775	4,680	5,323	3,289	94,853
March	52,948	25,003	9,487	17,987	3,719	5,793	3,333	118,270
April	51,290	21,638	11,179	18,605	5,165	6,304	3,338	117,519
Total—4 Months, 1951	197,880	84,610	33,781	68,324	19,092	23,077	13,140	439,904
Total—4 Months, 1950	173,084	76,348	25,920	52,432	12,486	10,789	7,379	358,418

* Automobile Manufacturers Association.

1951 Truck Trailer Shipments*

	March	Three Months
Vans:		
Insulated and refrigerated	382	1,179
All other closed-top	3,125	9,051
Open-top	479	1,277
Total Vans	3,976	11,507
Platforms:		
With cattle and stake-racks	161	429
With grain bodies	63	158
All other	815	2,417
Total Platforms	1,039	2,780
Tanks:		
Petroleum	434	1,172
All other	52	111
Total Tanks	486	1,283
Pole and Logging:		
Single axle	126	358
Tandem axle	170	381
Total	296	719
Low-bed heavy haulers	229	539
Dump trailers	114	241
All other trailers	625	1,270
Total Complete Trailers	6,785	18,572
Trailer Chassis	293	714
Total Trailers and Chassis	7,078	19,286

* Industry Division, Bureau of the Census.

Thomson has the Stats



Thomson is the one thermostat line that fills the most of your requirements. Included in Thomson's new and broader line are 21 heavy-duty numbers—standard, high and medium high temperatures—fitting practically all the big trucks and engines. And Thomson's line for cars and light trucks covers them all—down the line. Ask your NAPA Jobber for Thomson... electro-fused for extra dependability and service.

Thomson
Thermostats



STANDARD-THOMSON CORPORATION • DAYTON 2, OHIO

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* Industry Division, Bureau of the Census.

Expansion Announced

Acquisition of additional manufacturing space has recently been announced by The Leece-Neville Co., makers of automotive electrical equipment in Cleveland, Ohio. Some 16,000 sq. ft. of new floor space will be devoted to light manufacturing divisions.

Transportation Fair Cancelled

A last-minute collapse of negotiations for a license to operate the World Transportation Fair at Arcadia, Calif., has precluded any possibility of the Fair being produced this year.

Atlantic Coast Line Starts Truck Service

The Atlantic Coast Line Railroad has inaugurated 12 over-the-road truck routes for the handling of less-than-carload freight destined for Florida.

Trucks, the announcement said, will be operated to and from stations already served by the Atlantic Coast Line and the freight charges will be the same as those previously in effect for rail traffic.

A spokesman for the railroad estimated that the use of trucks will reduce the transit time of some shipments by 24 to 48 hours and will release many freight cars now in less-than-carload service.

Foreign Highway Officials Study U. S. Roads

About fifty administrators and engineers from the highway departments of some twenty-three countries have arrived in Washington to attend the course on highway practice in the United States to be conducted by the Bureau of Public Roads, U. S. Department of Commerce. The course will continue to September 7.

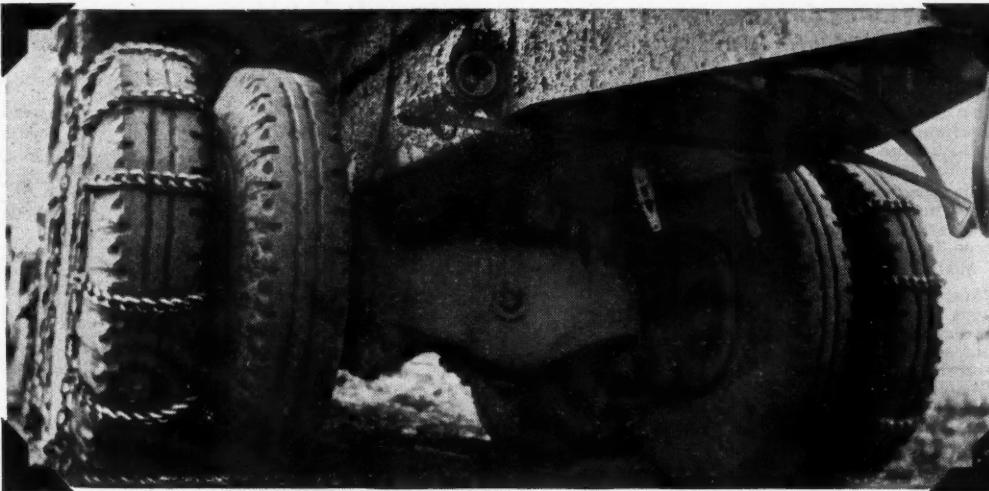
(TURN TO PAGE 224, PLEASE)

STANDARD ENGINEER'S REPORT

DATA
LUBRICANT RPM Multi-Service Gear Lub.
UNIT Heavy-duty final drive
OPERATION Hauling logs from woods to mill
CONDITIONS 5 to 16% soft road grades
grit and extreme temp.
FIRM Camas Lumber Co.,
Grangeville, Idaho

Special lubricant stops gear trouble where others failed!

UNTIL RPM MULTI-SERVICE GEAR LUBRICANT was used in this differential, gears and lubricant consistently gave trouble within 200 miles of operation. Three other lubricants failed in temperatures and pressures developed on grades "so tough a jeep can't make them." Gears had to be replaced several times. With RPM Multi-Service Gear Lubricant, the unit now has operated without repair for over a year. It is drained completely and refilled only at intervals of 15,000 miles.



THIRTY TO 40 TON LOADS are usual for the tractor and trailer. About 15 miles of a 25-mile haul is on dirt woods roads where grades are 14 to 16%. They are often deep mud from rain and melting snow. Out of the woods on a surfaced road there are 11 miles of constant 5 to 6% grade where high temperatures are developed in drive gears.

REMARKS: RPM Multi-Service Gear Lubricant will give you longer service from both truck and passenger car gears operating in severe service. It is especially recommended for hypoid gears of all types. It comes in several grades to meet all weather and operating conditions.



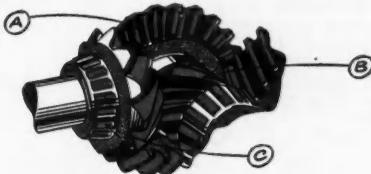
TRADEMARK "RPM" REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA
225 Bush Street • San Francisco 20, California

THE CALIFORNIA COMPANY
P. O. Box 780 • Denver 1, Colorado

STANDARD OIL COMPANY OF TEXAS
P. O. Box 862 • El Paso, Texas

How RPM Multi-Service Gear Lubricant prevents wear in severe conditions



- Contains a special compound that reacts chemically with metal and forms protective lubricating coating...resists rubbing action of hypoid gear teeth.
- Withstands extreme pressures and temperatures...highly oxidation resistant. Keeps gears and bearings cool.
- Inhibitors resist rusting, stop foaming in cases. Lubricates integral bearings and other parts. Will not separate.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any of the companies listed below.

MARQUETTE MAKES RECORD



What Other Drivers Say About Marquette

Here are some of the compliments paid to Marquette welding and battery charging equipment by other drivers who finished "in the money" in this year's 500-Mile Race.

"Marquette welding equipment must be the best in the world. It does the best work I've ever seen."

Mike Nazaruk . . . 2nd Place

"Marquette equipment really kept us in the race here at Indianapolis. Your boys turned out some quick work for us, and the welding was the finest I've ever seen."

Jack McGrath . . . 3rd Place

"The fast, efficient work Marquette welders and battery chargers are doing here at the Speedway isn't anything new to me. We know from long experience that your equipment is the finest."

Henry Banks, 1950 A.A.A.

Champion . . . 4th Place

"Seeing your welding shop in operation gives me new confidence. I know I don't have to worry about getting a weld done *right* when Marquette equipment is here, to take care of the trouble."

Bobby Ball . . . 5th Place

"Marquette welding equipment did such a good job for us during the trials that we would have been lost without your help."

Carl Forberg . . . 7th Place

"The welding job you did for us during the race made it possible to wind up in 8th place. After seeing what Marquette welding equipment has done here, I'm convinced no job is too tough for it. We certainly appreciate what you've done for us."

Duane Carter . . . 8th Place

"Marquette welding equipment and battery chargers get our nomination as the racing man's 'best friend'."

Duke Nalon . . . 10th Place



Winner Praises Job Done by "Official Welding and Charging Service"

SPEED MERCHANT Lee Wallard piloted his Belanger Special at a record-smashing average speed of 126.244 miles-per-hour to win the 35th annual 500-Mile Memorial Day race at the Indianapolis Speedway. In spite of the fact that he set the hottest pace in "500" history, Wallard had to make only one pit stop.

Commenting on the two Marquette welding jobs that helped to get his car ready for the big race, Wallard said: "I have complete confidence in welds made with Marquette equipment. If I didn't, I'd check out of the races. Too much depends upon having the welds hold for me to take any chances."



A mechanic watches intently while Charley Fletcher, Marquette welding engineer, welds a torsion bar, using the Marquette Model 72 Instant-Arc A. C. Arc Welder, with #85 Hy-Test Rod.

WINNERS OF MARQUETTE ESTIMATING CONTEST

CLOCKS:

Edw. A. Klein, Scranton, Pa.
R. B. Ritchie, Chester, S. C.
A. J. Springer, Hanover, Pa.
A. C. Rios, Tampa, Fla.
Weston D. Hughes, Forest City, Iowa
Max Cole, Santa Ana, Calif.
William E. Pyron, Eden, Idaho
Robert Laut, Tampa, Fla.
Harold A. Niennuis, Holland, Mich.
Don Harris, Meridian, Miss.
M. L. Griggers, East Point, Ga.
Warren Kline, Birmingham, Ala.
John W. Neumann, Marshfield, Wis.

L. A. Burton, Tampa, Fla.
Ellis C. Conger, Albany, Ga.
Scott Mikkelsen, Longview, Wash.
Gabine Juarez, Harlingen, Tex.

LIGHTERS:

Kermis Hultgren, Stromsburg, Neb.
J. B. Midulla, Tampa, Fla.
B. M. Varenhorst, Ottumwa, Iowa
Frank L. Henry, Jr., Franklin, N. C.
Milo F. Case, Oregon, Ill.
Archie A. Anderson, Kalispell, Mont.
Pete Erskine, Tampa, Fla.
Lawrence H. Krohn, Utica, N. Y.

J. E. Louderman, Colchester, Ill.
Geo. T. Jordan, Jefferson City, Mo.
John E. Sphar, Cynthiana, Ohio
Marvin O'Neil, Drayton Plains, Mich.
George B. Sanford, Knoxville, Tenn.
Mrs. Harold Fox, Mt. Pleasant, Mich.
C. J. Zdrykowski, Saginaw, Mich.
Frank E. Thompson, Hannibal, Mo.
Edward Lycka, Saginaw, Mich.
C. K. McCaffrey, Lamar, Colo.
Helen Chesnut, Atlanta, Ga.
Robert C. Hall, Salesville, Ohio
L. A. Schmidt, Sciotosville, Ohio
Wilbur Eaton, Dayton, Ohio
Chico Givens, Trenton, N. J.

736 WELDS AT INDIANAPOLIS

AS TRACK SPEED RECORDS FALL

255 Battery Charging Jobs Performed!



OFFICIAL LOG

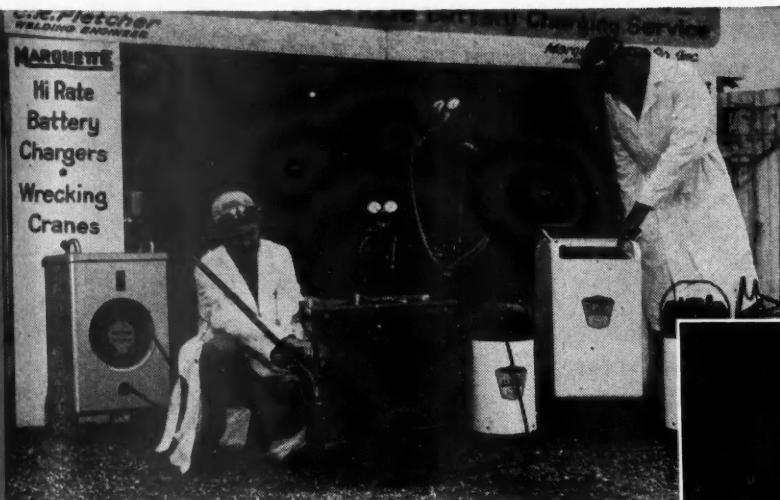
"We have maintained a true and accurate log of welding jobs done at the Indianapolis Speedway May 1st to 29th, inclusive."

Witnesses: (Signed) (Signed)

Frank J. Bain, Chas. R. Fletcher,
A.A.A. Chief Clerk Marquette
W. R. Myers, Welding Engineer
A.A.A. Observer

MARQUETTE welding and battery charging equipment set new records-of-performance during the time-trial period for this year's 500-Mile Race. On the job for the fourth consecutive year, Marquette service engineers made 736 welds . . . on 65 of the 69 cars entered, and every weld held up . . . proof that Marquette welding equipment does every job *right*.

MARQUETTE EQUIPMENT IN ACTION AT THE "500"



At right, Charley Fletcher does an important brazing job on a manifold with Marquette No. 32 Flux-Coated Manganese Bronz-Rod.

◀ A steady stream of battery charging jobs kept Marquette equipment busy constantly, right up to the starting hour. A total of 255 testing-and-charging jobs were performed by the Marquette Model 202 Hi-Rate Charger-Tester and the Porto-Fast "Twins" (Models 201 and 203). Speedy, efficient Marquette battery chargers helped to assure each racer *dependable* starting power.



MARQUETTE

REGISTERED U.S. PAT. OFFICE

Marquette Manufacturing Company • 307 E. Hennepin Avenue • Minneapolis 14, Minnesota



INTRODUCING . . .

...ARNOLD SHUPPERT, manager of the Sales Engineering Dept. of Reo Motors, Inc.

...LLOYD R. GUERRA, as president of the National Tank Truck Carriers Inc., succeeding Frank Baird-Smith of Detroit. Mr. Guerra is vice president and general manager of Western Truck Lines, Inc.



...JAMES H. HOFFMAN (left) is now executive vice president of the Mansfield Tire & Rubber Co., Mansfield, Ohio, and E. E. STEVENS (right) is vice president in charge of sales.



...JOHN BARCLAY, as general sales manager of the Heil Co., Milwaukee, Wisc., succeeding William E. Simons who resigned.

...GARNER L. DAVIS has been appointed district manager of Mack Motor Truck Corp at Houston, Texas.



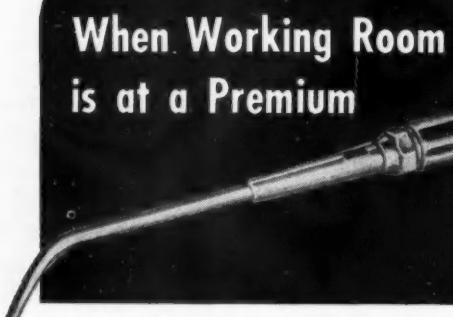
...CHARLES P. CULHANE, as general sales manager of United Motors Service, division of General Motors Corp.

...JOSEPH S. POLIN, Chicago branch manager for Bowers Battery and Spark Plug Co.



...L. F. MANNSCHMIDT, as manager of used trailer department of The Trailmobile Co.

...JAMES C. ALLEN (left) recently appointed in charge of territory through Nebraska and most of Iowa, representing Gray Rock Div., Raybestos-Manhattan Inc., and JOHN A. PERKINS (right) representative in western and northern Michigan.



PUROX No. 33
WELDING BLOWPIPE
With 4 Heads...\$23

Word gets around fast. That's one reason why more than 33,000 aircraft, auto body, and sheet metal men now use the PUROX No. 33 Welding Blowpipe. They're getting their jobs done faster, better, and easier than ever. Other good reasons are built right in the blowpipe.

With medium welding head, the No. 33 is just 12 $\frac{3}{4}$ in. long and weighs only 12 $\frac{1}{2}$ oz. It's balanced, too, so you can handle it all day without tiring. Its valves are up in front—right under your thumb. Its eight heads, each with its own shielded mixer, weld any metal up to $\frac{7}{16}$ in. thick. Long and slender, they reach easily into the tight spots or around jigs and fixtures. Each gives you the stable flame you want, with full control of heat output for critical work.

Let your PUROX Jobber show you how the No. 33 Blowpipe can earn more for your shop. Or write to Linde Air Products Company, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y.

The term "Purox" is a registered trade-mark of Union Carbide and Carbon Corporation.

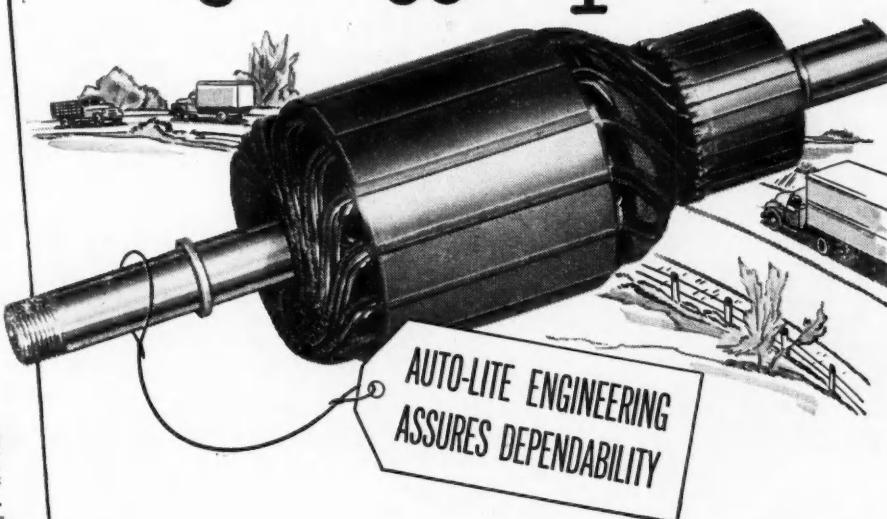
PUROX

Trade-Mark

ORDER FROM YOUR
LOCAL JOBBER

How TESTED QUALITY

cuts service time...
brings bigger profits!



● Reducing service repairs in your fleet frees your trucks for more important uses . . . and brings you bigger profits. Because repairs are costly, it pays to insist on the tested quality of original factory parts that assure efficient performance and usually **COST NO MORE**. The dependability Auto-Lite Original Factory Parts afford your expert service men is proved by this fact: more than half of America's car makers specify Auto-Lite. For complete information, write to

THE ELECTRIC AUTO-LITE CO.
Parts & Service Division
Toledo 1, Ohio

Canadian inquiries should be addressed to
Sarnia, Ontario



Money Cannot Buy
Better Automotive
Electrical Equipment



Fleetman's LIBRARY



No. 570



No. 570F

No. 570 Anthes Stop-Lite—with L-shaped universal mounting bracket. Overall 7½" dia. Lens 6¼" dia. Large 2" letters, STOP, molded into red or amber lens on black background. Black enamel with stainless steel door. No. 570F for flush mounting requires 6" opening. Overall 9" dia. Installation depth 1½".

IN ADDITION to these powerful new STOP-LITES, Anthes offers you a complete line of approved safety equipment in several price ranges. Whatever your safety needs may be, you can satisfy them in the Anthes line . . . the first and most complete line of highway safety equipment. For fast service see your jobber or write to us for a new catalog and name of local distributor. Anthes Force Oiler Company, Fort Madison, Iowa.

Anthes THE FIRST LINE OF SAFETY

... and proud to serve the safest
drivers on the road!

1951 Refrigeration Catalog just released by Kold-Hold Mfg. Co., Lansing, Mich., contains all the information needed for computing refrigeration plate requirements. It is a practical reference source for such information as the heat leakage factors of common types of insulation, the specific and latent heats of many perishable foods and the average value for air infiltration loads. Details and specifications for walk-in, truck, and standard units are included. A copy will be mailed free upon request to the manufacturer.

Cherry Rivet Co. has a condensed catalog available which tells the uses of rivets in various phases of construction and maintenance of truck, bus, and trailer bodies. A section is devoted to how the Cherry rivets work, and how to order various sizes, materials, and types. The line of Cherry rivet guns is also described in detail. Copies are available from Cherry Rivet Co., 231 Winston St., Los Angeles 13, Calif.

Townsend Locknuts are described in a new 4-page illustrated folder available from the Townsend Co., New Brighton, Pa.

Fire extinguisher guide which gives information about the line of portable and special purpose fire extinguishers is available from Stop-Fire Inc., Brooklyn, N. Y.

Proceedings of the 14th annual time and motion study and management clinic sponsored by the Industrial Management Society is available in bound edition from the Society's Chicago office for \$3.00.

Radiator and Water Cleaners manufactured by Fram Corp., Providence, R. I., are pictured and described in the new 1951 catalog. Installation information and specifications of the various Fram models are listed.

Dry Ice Warehouse Directory is one of the features in a new booklet prepared by Foster-Built Bunkers, Inc., Chicago, Ill. There are other data in the booklet, including dry ice requirements of various bunker units under varying climatic conditions and at various times of the year.

Job Study prepared for wholesale grocers and food warehouse operators has just been released by Towmotor Corp., Cleveland, Ohio, in cooperation with J. Weingarten, Inc., of Houston, Texas. Modern methods of car knocking and the handling of materials reduced unloading costs 70 per cent for the Texas firm during the study. Write for copies of Certified Job Study No. 101.

"Low Cost Ore Haulage With Cummins Diesels" contains operating data compiled by the Bureau of Mines at the National Lead Co. mine in Tahawus, N. Y.

"The Truth Crushes Commie Lies" has been released by Industrial Services Branch, Office of Public Information, Department of Defense. It compares the place of the worker under communism with that of the worker in a democratic society.



★ MOTOR FREIGHT CARRIERS COME THROUGH IN THE PINCH
★ PICK UP AND DELIVER ANY TIME ANY PLACE

When the assembly lines are almost down, when parts are missing, it's the motor freight carriers that come through in the pinch — squeezing five day delivery schedules down to 24 hours — keeping a whole plant working that otherwise might be closed down.

It's the unique flexibility of the motor freight carriers — fast, efficient delivery, any time, any place—that makes them more essential to American industry every year.

In these days of national emergency when speed is demanded, the motor freight industry is serving America with millions of carriers—keeping assembly lines moving, coming to the rescue of isolated plants, supplying food to army camps — feeding life-blood to our complex industrial nation. Now, more than ever before, when goods have got to move fast — it's shipped faster by truck.

Brown
ALUMINUM
TRAILERS

BROWN TRAILERS, INC., Toledo, Ohio • Spokane, Wash.

Washington Runaround

Continued from Page 37

This does not affect the minimum amounts of increased coverage required which remain as follows: injury or death to one person, \$10,000; injuries or death to all persons in one accident, subject to the one person maximum, \$20,000; and property damage, excluding cargo, any one accident, \$5,000.

ICC to Close 10 Offices

The ICC has completed plans to close 10 of the Bureau of Motor Carriers supervisory offices and to cut down the number of BMC district offices from 16 to 10. The action was taken as a result of the drive by Congress to impose economy on the various government agencies by reducing their funds. Some 88 employees would be cut from the ICC payroll by the action.

District offices proposed for elimination are as follows: Charlotte, N. C.; Nashville, Tenn.; Minneapolis, Minn.; Little Rock, Ark.; Denver, Colo.; and

Portland, Ore. These six offices, however, would not be entirely lost to BMC. They would be reduced to the status of supervisory offices.

But 10 supervisory offices would be closed under the economy move. They are: Providence, R. I.; Syracuse, N. Y.; Salisbury, Md.; Columbia, S. C.; Tallahassee, Fla.; Tulsa, Okla.; Dallas, Tex.; and Spokane, Wash.

Counting in the six converted district offices, the net reduction would be 59 supervisory offices instead of the present 63.

New Buildings Need Permits

Truck operators who figure on building new terminals, warehouses, and other construction must now file applications with the Defense Transport Administration, except in cases where the project has been granted a defense loan or a certificate of necessity under the fast-tax-write-off plan.

Applications may be made on form NPAF-24 which can be obtained at any Department of Commerce field office. They must be sent to the DTA for processing under the direction of F. Berkeley Robins who has been made head of the Equipment & Materials division.

Price Police

The role of "private eye" which Labor Department's Wage and Hour division has been playing for the Wage Stabilization Board has been made official. Henceforth, the W-H division and its 68 field offices will have full power under a recent delegation by WSB to receive petitions and carry out investigation of alleged violations of wage ceilings. But the Labor Department cannot act as judge on the merits of the cases. Reports of findings must be forwarded to the WSB in Washington for action.

Trailer Outlook Improved

First third-quarter allotments of CMP materials were scheduled to go out to truck-trailer manufacturers early in the last half of June. This was made possible largely because most manufacturers, suffering from material shortages, managed to beat the deadline for filing requirements.

It was still problematical whether the third quarter goal of 15,425 units could be reached. Shortages of axles has been a major problem, manufacturers have reported. Trailer axles as such were inadvertently left off the original B list but a ruling has been made that all axles are B products insofar as

(TURN TO PAGE 103, PLEASE)

UNIFORM CO-EFFICIENT OF FRICTION

4467x6
6x4 .03410
A=34+8

100+01
2.39463
1.2+4.7
14.4=150
X= 46.92

MOLD-BLOK
BRAKE LINING

Specify
MOLD-BLOK

MOLDED MATERIALS DIVISION
OF
CARLISLE CORPORATION
RIDGWAY, PA.

Washington Runaround

Continued from Page 100

processing for allotments is concerned.

Some interim assistance has been granted manufacturers by issuing a few DO-45 (miscellaneous and hardship) priorities. In the meantime, DTA has tentatively set the truck-trailer goal for the fourth quarter at about 21,000 units and will urge sufficient allocations for trailer makers and parts manufacturers to enable this production.

Defense for ICC Safety

A show-down on the battle for restoration of safety enforcement funds to the ICC appropriations was scheduled for late June when the fight was to be carried to the Senate floor. Best opinion of the moment was that some of the deep slash made on the House side of the Capitol would be restored. But backers of the ICC safety program were prepared to settle for less than the agency had said was necessary.

Basis of the House cut was the claim that ICC's safety operations duplicate those of the individual states. This is denied by ICC which says hundreds of carriers and a million drivers now under ICC regulation would go unchecked if its safety work is eliminated. Officials also believe that if forced to drop this program, drivers, loaders, mechanics and so on would then very likely be shifted over under the Fair Labor Standards Act.

Buses Need Replacement

NPA has been drafting an order which would provide for production of a specified number of buses during the third and fourth quarters 1951. It would set unit quotas and allot production percentages to individual companies . . . The agency says there are 86,200 common carrier buses now on the highways and that one out of five need replacement.

END

Please Resume Reading Page 41

Safety Decal Introduced

An integral part of the safety program instituted by the Pioneer Ice Cream Division and Borden's Farm Products Division of the Borden Co. is a Day-Glo fluorescent decalcomania created at the suggestion of Pioneer Safety Committee by Palm Fechteler and Co., New York.

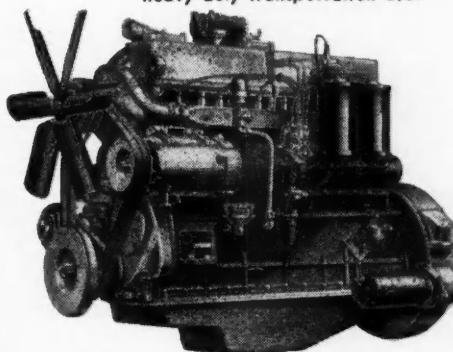
Placed on the dashboards of every vehicle, this 3½ in. x 5½ in. decal is a constant reminder to the driver to mind his "Cs" — Concentration, Control and Courtesy — for safety.

LOOK WELL TO THE ENGINE ... IT'S THE HEART OF THE MACHINE

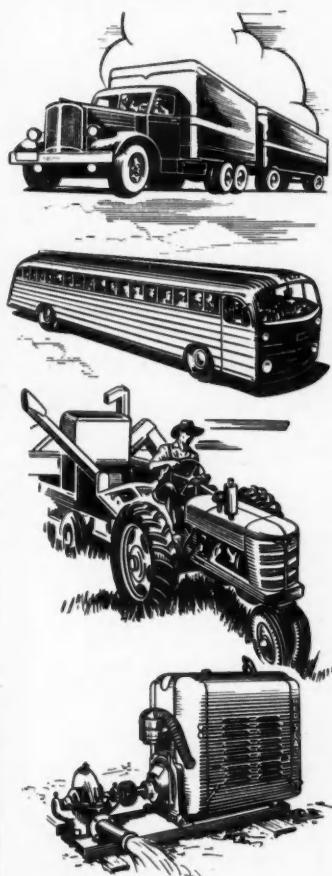


CONTINENTAL RED SEAL POWER

S-6749 — Six cylinder overhead-valve engine for industrial and heavy-duty transportation use.



Red Seal power is standard in leading makes of equipment for industrial, farm and transportation uses. Red Seal engines and power units for a wide range of applications are available through dealers from coast to coast. REMEMBER, GOOD EQUIPMENT IS BETTER WITH CONTINENTAL RED SEAL POWER.



When choosing mechanized equipment for industry, farm or transportation, pay special attention to the power plant. That's good advice at any time, and extra good today. The manpower shortage has hammered home the need for dependable machines—and even the best is only as dependable as its source of power . . . The presence of a Red Seal engine in vehicle or specialized equipment is an added assurance of user satisfaction over the years, for Continental Red Seal is truly specialized power. Continental's policy ever since 1902 has been to build each engine expressly for its work. Red Seal commercial models, ranging from 3/4 to 270 horsepower, are built to more than 1,000 different specifications. And every model is engineered as an integral part of the equipment which it powers . . . You can place full confidence in the product of the manufacturer who has chosen Continental Red Seal as the heart of his machine.

FACTORY-AUTHORIZED SERVICE AND GENUINE CONTINENTAL
RED SEAL PARTS AVAILABLE FROM COAST TO COAST

Continental Motors Corporation
MUSKEGON, MICHIGAN

Tire Costs Cut 33% In Texas Fleet

Continued from Page 59

It took the service of two men working full time for approximately two months to gather the data needed and brand the tires, but when the work was done we knew the whereabouts of every tire. The word "branded" is used literally, because we did brand them with our own numbers, using an electric branding iron prescribed for the purpose.

Campaign for Greater Mileage
SIMULTANEOUSLY with the tire data drive, we began a campaign emphasizing future plans to raise tire mileage. This was to contribute greatly to the success of our program.

As the work progressed, the development that impressed us, and the crew selected to lay out our tire PM system,

was the close relationship of good tire performance and efficient vehicle functioning in general. Tires do not show signs of abnormal wear without cause. When that cause is corrected, whether it be loose wheel, axle studs, shackles or U bolts, a potential road failure, accident or serious delay is eliminated at the same time.

The year prior to the one in which our tire PM became fully effective, we had 194 road failures out of approximately 13,000 dispatchments. The next year road failures dropped to 102 out of approximately 12,500 dispatchments. In 1948, road failures numbered fewer than 50, dispatchments remaining normal. Our 1949 and 1950, dispatchment and failure records show approximately the same as the 1948 record. While this improvement cannot be attributed entirely to better tire management, we do feel confident that a substantial percentage of it is due directly to better handling of the tire maintenance.

The servicing of tires is simple. Getting personnel to be tire-minded is more difficult. It takes time. However, once the tire problem comes under study, various improvement possibilities are certain to appear.

What Survey Revealed

OUR educational efforts aimed at lengthening the lives of tires became quite aggressive when our statistical survey revealed that a harvest in economy could be reaped by reducing inattention, neglect and carelessness in tire PM.

We found fully 90 per cent of the valve caps missing on our equipment; few if any of our tire service workers had been taught to consider the delicate nature of the tiny valve core.

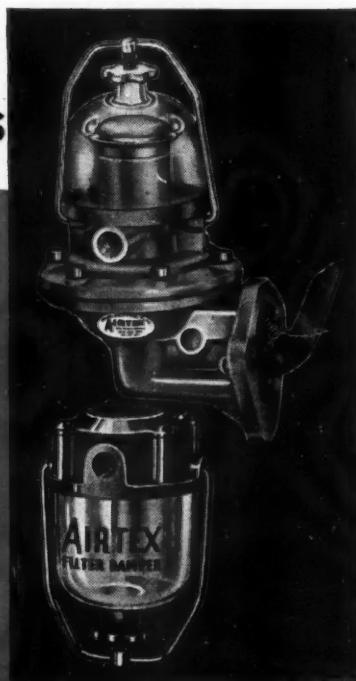
Little short of fantastic were our findings under the heading of "Mismatched Hand Holes" on disc wheels. When this percentage for the system was computed from our Form MT-525, Fig. 2, it revealed that fully 15 per cent of our tires could not possibly be checked for tire pressure until they had been changed.

Final figures on tire defects indicated that about 80 per cent could be in some way associated with some mechanical

(TURN TO PAGE 106, PLEASE)

R PRESCRIPTION for AILING FUEL SYSTEMS

Install new
AIRTEX
FUEL PUMPS
and anti-pulsation
FUEL FILTERS



KEEP
YOUR
FLEET
ROLLING
AT ALL
TIMES!

For reliable start-and-stops, and long-distance hauls . . . in any climate, any season . . . Airtex assures your fleet dependable, economical performance under *all* operating conditions!

Airtex fuel pumps and Anti-Pulsation filters are equipped with the famous Airtex diaphragm, guaranteed for 50,000 miles—flexes instantly at 30° below zero and top engine heat—faster get-away—easier starting.

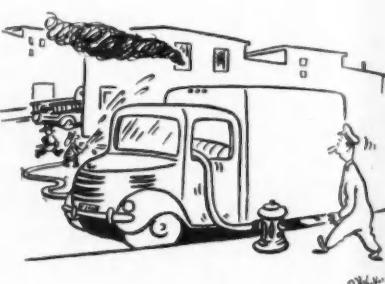
Airtex provides a core trade-in allowance on new pump purchases, 25¢ on singles—50¢ on duals.

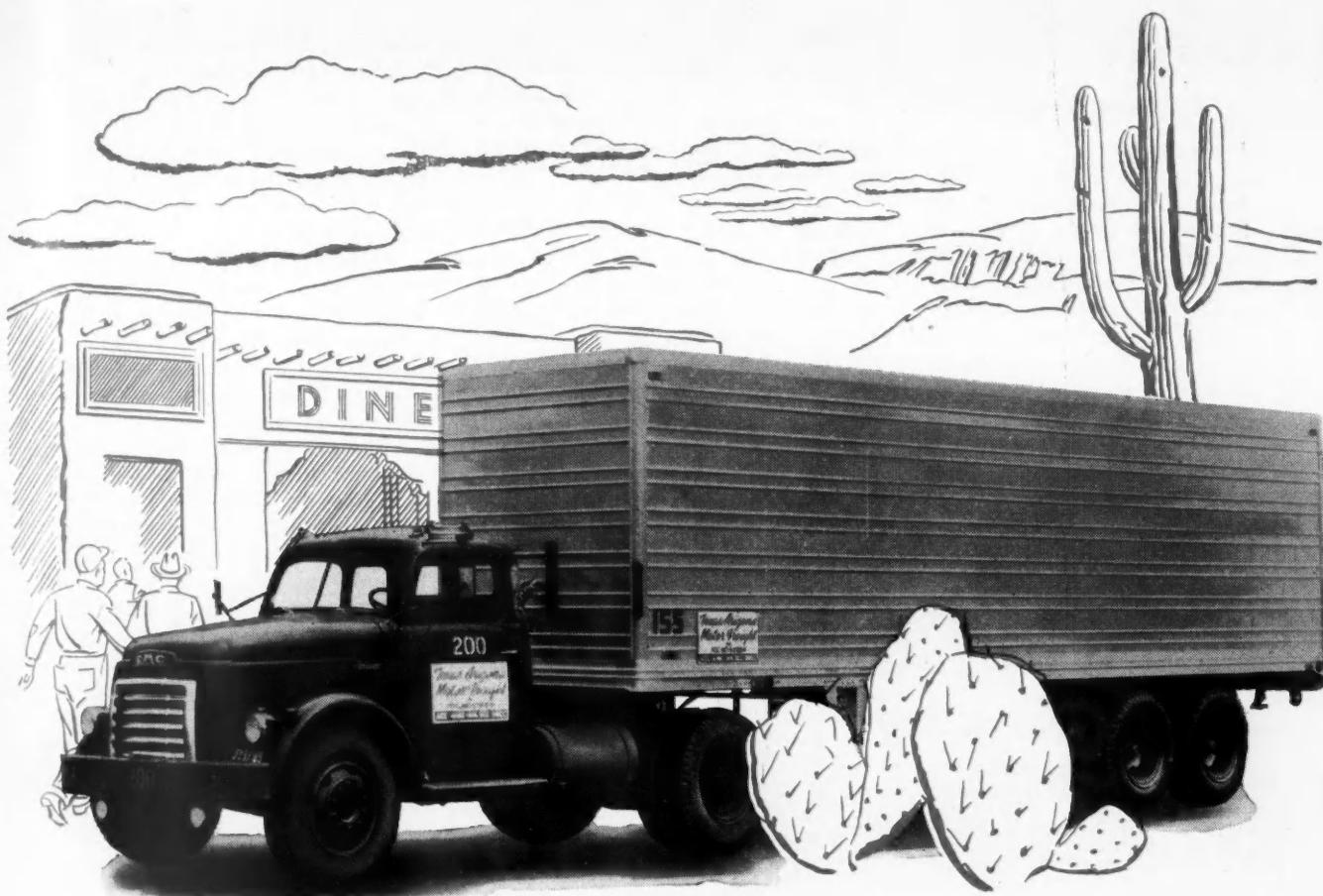


AIRTEX

AUTOMOTIVE DIVISION

ADVERTISED
IN THE
**Saturday
Evening
Post!**





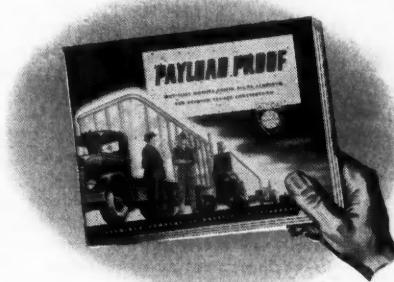
Texas-Arizona Motor Freight reports: "11% More Payload with Utility All-Aluminum *Vans"

Another fleet record proves trailers of Alcoa Aluminum *earn more!*

"In our operation, which sends equipment through the West and South," says Mr. Joe E. Erwin, T-A's California manager, "we are faced with the various size and weight limitations of those states through which we travel. Our selection of Utility All-Aluminum Vans, because of their lighter weight, has enabled us to increase our payload approximately 11%. Multiply this by the 24 Utility vans in our fleet—and you can easily see how our profit ratio has been upped."

Now, more than ever, "*Extra payload is the payoff*" with Million-Milers of Alcoa Aluminum! Lower maintenance, too, because aluminum resists corrosion, needs no paint, simplifies repairs. Added years of trailer life, because *aluminum lasts!*

*Built by the Utility Trailer Company of Los Angeles, California



Military needs now limit the aluminum we can supply for civilian uses. But this 36-page "Payload Proof" book will give you valuable help in your long-range planning for more profitable equipment. Write ALUMINUM COMPANY OF AMERICA, 1876G Gulf Building, Pittsburgh 19, Pennsylvania.



ALCOA *First in Aluminum*

THE METAL THAT LASTS

Tire Costs Cut

Continued from Page 104

maladjustment. For illustration: 10 per cent of the springs on our trucks and trailers were out of line, due to defective tie bolts. Out of round brake drums were common, as were worn shackles and wobbly wheels. Defective steering gears were credited with many additional instances of abnormal tire wear.

Inflation methods were far from being standardized. It was determined that shop workers and other service personnel were far apart on the idea of proper inflation; some had been told one thing, some another. Scarcely any attention was given to the important work of keeping dual tires properly matched.

Nearly all of these deficiencies were corrected the first year. By that time we had learned that the care of tires demands constant attention at all times; not from tire service men alone, but from the entire mechanical staff. Conse-

quently, all terminal points have been equipped with tire calipers and matching gages; tools we now consider indispensable. The frequent use of these instruments is a "must" at each garage. We know from experience that guessing is a bad policy when applied to matching dual tires.

As our backlog of information on the handling and condition of tires grew, it became apparent that mere instructions on better tire methods would not be sufficient. A series of monthly meetings was begun, at which we delved thoroughly into our tire troubles. At open forum sessions, all service personnel were allowed to offer suggestions.

A great deal of valuable information was gathered at these meetings. However, the greatest benefit derived from those tire meetings was the building up of a "tire minded" personnel. There had been no lapse in efforts, no neglect of rules; our disadvantage had been in the lack of a proper system to follow.

Before describing how we check tires from purchasing to scrapping, it must be explained that we were fully aware of the excellent tire care services offered by some of the manufacturers. Several factors influenced us in our final decision to depend upon ourselves in tire upkeep.

First of all, tire engineers, although accurate in diagnosing tire ailments, still leave it up to the operator to correct whatever deep-seated or superficial trouble exists. Also, if servicemen know that they are being depended upon to avert tire trouble through excellent mechanical upkeep, equipment life also will be prolonged.

Our operation is spread over too much territory (approximately 2700 miles of truck routes between El Paso, Tex., and New Orleans, La.) to make an outside service practical, and the tire company would have to cover too much territory. Under our plan, the rubber

(TURN TO PAGE 108, PLEASE)

CUT IMAGE SHIMMY PUT SAFETY IN THE PAYLOAD

with

Speaker® DUCK'S BACK® TRUCK MIRRORS

FitSall hinge
mounting
bracket fits
all truck
door hinges,
1 1/4" to 3 1/4".
(U.S. Pat. No.
2512397)

SideSwing
mounting
bracket for
panel, cowl
or fender
mounting

- ★ THEY'RE FEATHER LIGHT!
- ★ THEY'RE WEATHER TIGHT!
- ★ THEY'RE BUILT RIGHT!
- ★ THEY'RE PRICED RIGHT!

Here's a complete line of truck mirrors to fill every fleet requirement, from the smallest panel truck to the mighty cross-country carrier—engineered and built to cut image shimmy and blur—to provide clear, safer rear vision. Lightness of mirror head, strength of mirror arm and rigidity of mounting bracket practically eliminate normal vibration and whip. Speaker brings you practical design, utility and durability . . . a boon to driving safety.

Features: Feather-light aluminum alloy mirror backs
★ WeatherSealed mirror heads in 5 and 6 inch round and 4 x 8 and 6 x 8 inch models
★ Double-reinforced ball socket and rubber gasket
★ Clear, non-glare or polarized glass
★ Steel or rubber doors.

Speaker Duck's Back Mirrors surpass all existing specification requirements for durability and safety.

GOT IT? . . . GET THEM FROM YOUR JOBBER!

Other Speaker Products:

Passenger Car Mirrors, Truck and Bus Mirrors, Self-cancelling Passenger Car and Truck Directional Signals, Back-up Lights, Slow Lights, Truck Lights, Hand Brake Signal Lights, Match Patches, Vulcanizers, Tire Repairs.

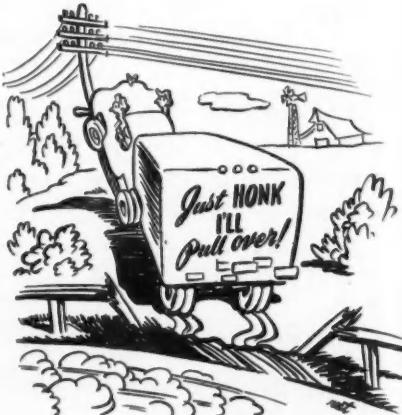
J.W.

Speaker®
CORPORATION

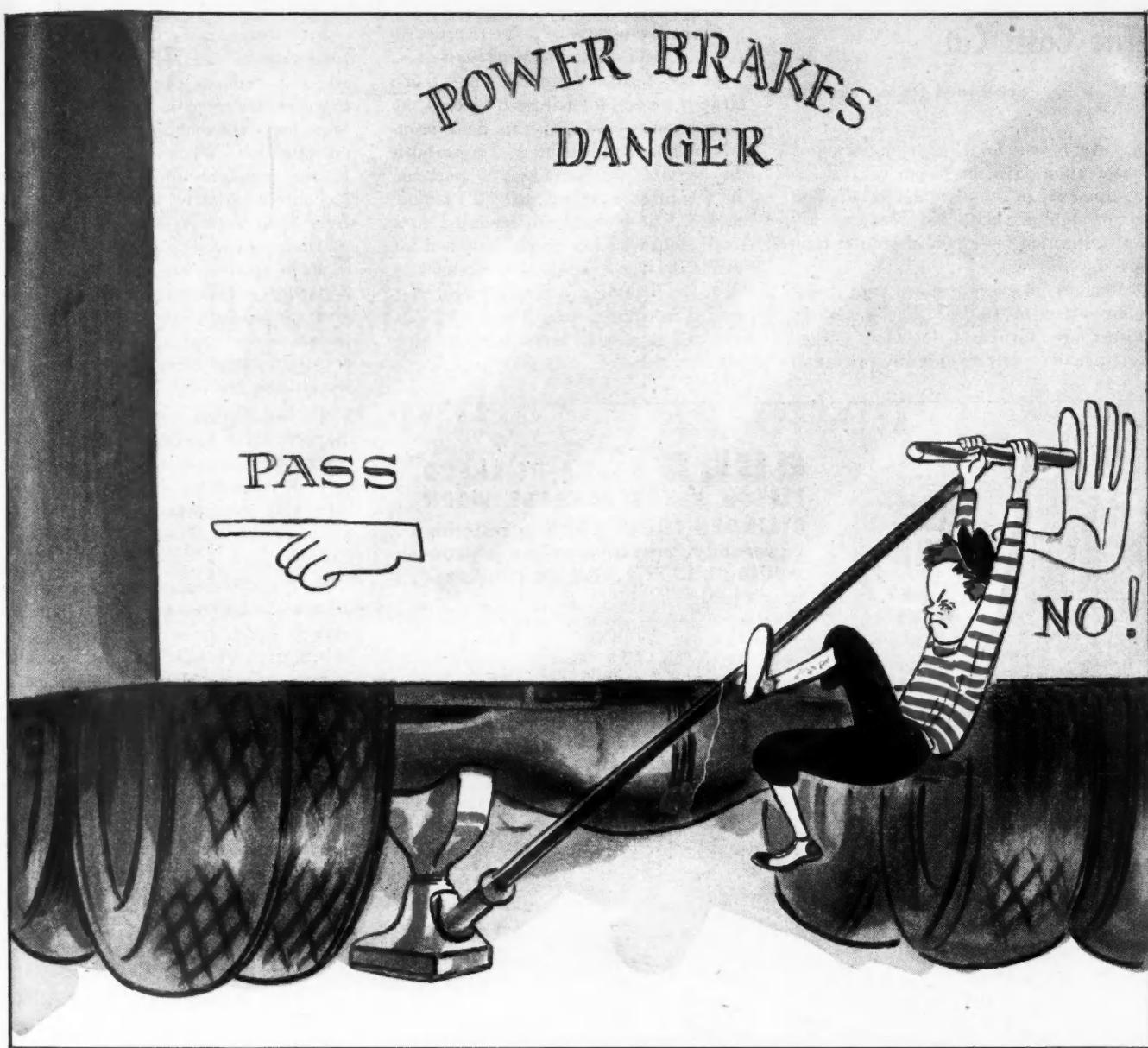
2059 N. Wall St., Milwaukee, Wis., USA

DUAL-VISION VANETT MIRRORS

For use where driver may operate vehicle from standing or seated position. Two 5" round aluminum mirror heads mounted on 8" T-shaped aluminum-enamel finished arm. Panel mounting bracket. An original equipment type mirror now supplied through jobbing channels.



"Man! Was that a HORN!"



Don't send a boy to do a man's job!

MOTOR OIL that may—or may not—stand up to man-sized jobs just isn't worth the risk today. So—why not standardize on this man-sized oil—Phillips 66 Heavy Duty Motor Oil.

Manufacturing care all along the line assures you that Phillips 66 Heavy Duty Motor Oil can take those tough assignments in stride. High speeds! High temperatures! Heavy loads!

Great stamina—at low cost per unit of work is why Phillips 66 Heavy Duty Motor Oils are used on 10,000,000 fleet service miles a week.

Ask one of our on-the-job lubrication engineers how you can add efficiency and economy to your fleet with Phillips 66 Heavy Duty lubricants. Phillips Petroleum Company, Bartlesville, Oklahoma.



Oil for the Engines of Commerce

PHILLIPS 66 HEAVY DUTY MOTOR OIL

Tire Costs Cut

Continued from Page 106

on every vehicle is kept under close observation daily on 90 per cent of our equipment; every other day on another six or eight per cent. No tires are without inspection for a period greater than six days.

Records on every tire are kept in the main office in Dallas. The necessary forms are furnished to each garage foreman and driver, and any operation

affecting the history of a tire is properly recorded and mailed to headquarters.

At the Dallas Terminal, one of our largest, we employ one man to keep the tires of units calling at this dock properly matched and inflated. To establish this service, we purchased a portable air compressor operated by a gasoline engine. The air unit was mounted on a small four-wheeled truck, the bed of which is large enough to accommodate all tools, including jacks and wrenches needed to change truck tires. The unit is stored in a small house built for this purpose alone.

Frequently, it is unnecessary for a road unit to call at the main garage, when it calls at the terminal. Tires, however, are too vital to ignore with the hope they will make another trip without attention. When a trailer is parked at the terminal and the tractor detached, it possibly will remain there from 12 to 16 hours before going on its schedule. In such a case, a tire check is made upon arrival and just prior to departure. This plan gives the tire man an opportunity to discover any serious defect, especially any trouble denoted by improper air pressure, loose wheel lugs, etc.

We feel that no system is better than the personnel administering it, so for this reason our campaign for better tire care is consistent, although we have been able to diminish the number of tire meetings from every 30 days to one every 60 days.

Since mechanics and tire men check tires with instruments from time to time, it is our policy to remove a tire for recapping while the tread is still prominent, although we do not remove at any particular mileage. In matching dual tires, we insist on not more than $\frac{1}{4}$ -in. variation between mates. When the variation approaches this maximum, the larger tire is applied to the outside dual.

Since instituting this program we have been able to cut tire costs approximately 30 per cent, a saving which more than pays for the extra effort expended.

Tire Records Developed

AS WAS previously stated, "Tire Inspection Work Sheet," Fig. 2, was originally intended to be temporary. But after using it in our ground work, we found it adapted itself quite well to a regular monthly inspection record form. It is invaluable in reducing the ill effects of the one small loophole in our plan; a loophole which becomes evident only when a driver, or shop

(TURN TO PAGE 110, PLEASE)

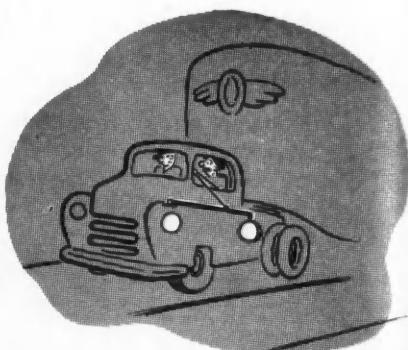
BURD VALVE PACKING STOPS
OIL LEAKS FROM WORN STEMS AND
GUIDES by keeping oil in the guide—out of
the combustion chamber. Easy to install in
any make or model!

BURD PISTON RING COMPANY

ROCKFORD



ILLINOIS



What it means to you
to have batteries that need
water only $\frac{1}{3}$ as often

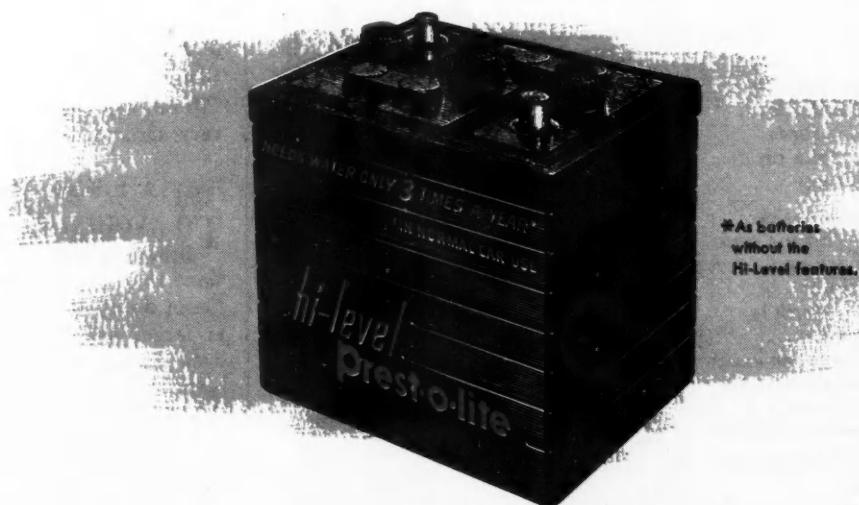
USING BATTERIES that need water only one-third as often* means you can save up to two-thirds of the time spent on costly battery maintenance every year . . . helps you to eliminate the constant danger and worry of having your batteries dry out and fail prematurely.

Hi-Level means a wider margin of operating safety, too, for every fleet

operator, because Hi-Level gives longer life in tests conducted according to accepted life cycle standards.

Call your local Prest-O-Lite distributor for special fleet buying arrangements, or write directly to

PREST-O-LITE BATTERY COMPANY, INC.



PREST-O-LITE hi-level BATTERIES

Tire Costs Cut

Continued from Page 108

member, fails to submit a tire change report, Fig. 3, in event of any tire change.

Drivers must carry our Form MT-526, Fig. 3, at all times. The importance of this information must be impressed upon everyone, for it is the backbone of the system. If, however, it is not submitted, then the change will be revealed on Form MT-525, Fig. 2; al-

though the mileage will necessarily be an estimation between the date of change and the date of monthly inspection.

Where workers are reasonably tire-minded, the inaccuracies thus produced will be small, but error can be reduced almost to the vanishing point if the importance of a full record is continually stressed.

Current Tire Record System

THE tire record at Texas & Pacific Motor Transport begins when the new tires are purchased and delivered

to the Dallas garage. All new tires, except possible rare emergency purchases, are delivered to Dallas, thus simplifying our system. New tires are branded and carded, the brand number is placed on our Form MT-523, the Tire Record Card shown in Fig. 6. The first entry relative to the new tire includes such information as date purchased, serial number, price, etc. The reverse side of this form, Fig. 6, is used to record recapped price and performance of the same tire. The information here carries the tire history to completion, or to the time it is scrapped.

Identification of the tire on Form MT-523 may end record keeping on the tire for some time, for this is all that is done until the tire is placed in operation. The day it is put on a wheel, the Vehicle Tire Record Card, Form MT-524, shown in Fig. 4, comes into use. The latter is numbered to correspond to a vehicle, either tractor or trailer.

Since one vehicle carries several tires, including a spare, the number of Vehicle Tire Record cards is roughly one-sixth the number of MT-523's (Tire Record Cards).

Driver's Report in Key Form

THE information for entry on Form MT-523 is obtained by the tire record clerk from Form MT-526—the Driver's Report card, shown in Fig. 3—which is filled out either by drivers or shop service men. Prompt use of the Driver's Report is a cog without which the system will not function.

When trailers are switched from one tractor to another, it is necessary to fall back upon mileage estimates. However, this can be made a reasonably accurate method. We averaged the daily runs of several units, arriving at the figure of 150 miles per day. This, of course, will vary according to the company.

A System for Branding

TO AVOID confusion during the first branding period, it is well to allow some room for a spread of numbers between terminals. If, the home terminal is large, numbering can begin at 1; even though not more than 1000 tires.

(TURN TO PAGE 112, PLEASE)



Like the rat above, improper tire inflation is insidiously destructive. Each year, wrong tire pressures from inaccurate gauges take an enormous toll in tire mileage.

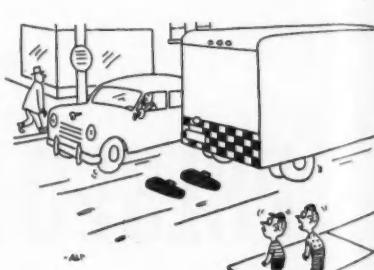
The Eco Tireflator eliminates the guess-work of obsolete "inflate and test", steps up fleet service and saves manpower. The dial is set (5-110 lb. range), the chuck is applied and tires are quickly, automatically brought up to the exact pressure desired. Units are available in many different models which meet Grade A testing specifications of the American Standards Association.

Write for further details.



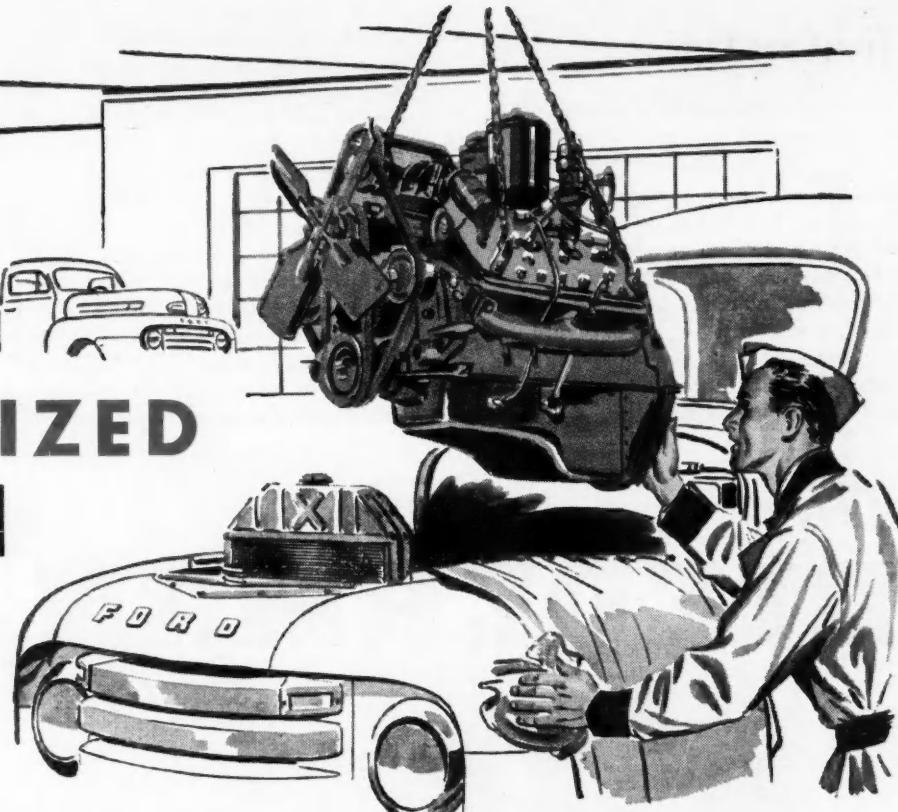
JOHN WOOD COMPANY
BENNETT PUMP DIVISION
MUSKEGON, MICHIGAN

JOHN WOOD Est. 1867



"Missed again!"

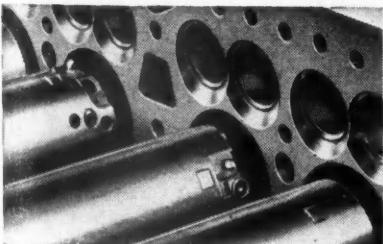
Why it pays to install **AUTHORIZED** Reconditioned Ford Engines



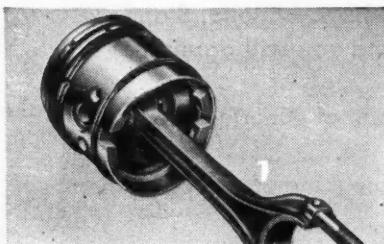
● If the trucks in your Fleet are Ford Trucks, you're lucky when it comes time to REPOWER. Simply install **AUTHORIZED** Reconditioned Ford Engines and your Fleet will deliver new-engine performance. Every **AUTHORIZED** Reconditioned Ford Engine carries the Reconditioner's Warranty against defects in material and workmanship for 90 days or 4,000 miles, whichever occurs first.

You save money right from the start! First: the price of an **AUTHORIZED** Reconditioned Ford Engine is only about half that of a new engine, yet *you get new-engine performance!* Second: your operating costs are cut by savings in fuel, repairs and "down-time"!

● Here are just 2 reasons why you should insist on an **AUTHORIZED** Reconditioned Ford Engine



Reconditioned by factory-type precision machines—This multi-reboring machine is one of the many factory-type precision machines that rebuild an **AUTHORIZED** Reconditioned Ford Engine. It's typical of the equipment used in **AUTHORIZED** Ford Reconditioning plants.



Over 150 new or completely Recconditioned Genuine Ford Parts—Each keeps your Ford *all Ford!* Consider a Genuine Ford Piston—made right to fit right to last longer. Highest quality aluminum alloy . . . tin plating for break-in . . . steel reinforcement strips for controlled expansion.

You save money in the long run too! Primarily by eliminating costly "down-time" for repeated patch-up jobs. Experience has proved that an **AUTHORIZED** Reconditioned Ford Engine can add 50,000 miles or more of useful hauling service with only normal maintenance.

Complete unit installation in one day by appointment! Each **AUTHORIZED** Reconditioned Ford Engine comes complete—ready to install. "Down-time" for each truck is cut to a minimum. Easy-payment plan can be arranged. *See your Ford Dealer* and start saving *today!*

Save money too, with these **AUTHORIZED** Reconditioned Ford Parts!
Carburetors • Fuel Pumps
Clutch discs and pressure plates • Distributors
Voltage Regulators • Generators • Starting Motors
Brake Shoes

Look for
this emblem
on the engine you
buy. It's your
assurance of
quality, economy
and value.
See your Ford
Dealer today.



Tire Cost Cut

Continued from Page 110

may be used on units operating from this point. It is advisable to begin numbering for the next terminal at 1500 or 2000, thus allowing the addition of distinguishing numbers to reach a point where there will be no necessity for beginning over at number 1 until all the tires in that approximate range are worn out and scrapped.

If a system includes several terminals, a similar allowance should be made between each terminal. After the system is underway, and the original branding of all rolling tires is completed, the numbers begin to run consecutively upward if the branding is to be done at one central point.

By reference to the tire record card, a check may be made on the performance of any tire at any time. However, performance of any one make is not judged by two or three tires. Not until several of the same make of tires are scrapped, can we begin to judge what

performance has been obtained and what we can expect from that particular make in the future.

Each month we bring up to date a report called "Monthly Tire Recapitulation." It deals with scrapped tires exclusively, and the information is developed under four headings: Tires Scrapped, Total New Mileage Obtained, Total Recapped Mileage Obtained, and Average Miles Per Tire.

Information for this report has been gathered from day to day and kept on the tire record cards. The fewer makes of tires represented, the simpler the recap report will be, but numerous brands can be included on it without difficulty.

We inaugurated this system in 1946 and have been well pleased with its simplicity, and the availability of complete data on all tires in service.

END

Please Resume Reading Page 60

Fleet Notes

SEATTLE, WASH.—Kenworth Motor Truck Corp. has announced the appointment of the Collins Equipment Co., Inc., as distributors for Kenworth trucks in the state of Texas. Headquarters for the new firm are at 1318 South Lamar Street in Dallas.

OAKLAND, CALIF.—Pacific Intermountain Express has announced that Lee Embree will replace S. W. "Zeke" Daly as branch manager of P-I-E's terminal at Elko, Nevada. Daly has been promoted to the position of district manager trainee and is scheduled to start a 12-month training program at the company's general office in Oakland on May 1. During the course of his training period Daly will be temporarily assigned to all major terminals.

DETROIT—Important additions to the fleet and terminal facilities of the Geo. F. Alger Co. have been announced by A. C. Scott, president and general manager.

Mr. Scott said the firm was now taking delivery on 125 new power units and 160 trailers. When completed, these deliveries will give Alger a total of approximately 1800 trucks, tractors and trailers.

THE BIEDELMAN TRUCK



**An All-Star Truck
Constructed of All-Star Units
Doing an All-Star Job Since 1920**

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealership solicited.

WRITE, WIRE or PHONE

**BIEDERMAN MOTORS CORPORATION
CINCINNATI 14, OHIO**



*"Nothing like a refreshing dip
on a hot day."*

PP the best answer to our tool needs ⁹⁹

Snap-on Service

Men like these... 800
STRONG bring
Snap-on Service to shops
everywhere



Willie B. McMillan
Dallas Branch



Fred B. Reeve
Philadelphia Branch



W. H. Brooks
Charlotte Branch



Art Charlton
Vancouver Branch



John W. Barkell
Minneapolis Branch



Hugo V. DiGiantomaso
Los Angeles Branch



H. E. Campbell
Pittsburgh Branch



E. L. Morgan
Indianapolis Branch



Erwin Rawlings
Chicago Branch



Melvin Frank
Omaha Branch



Thomas L. Addis
Syracuse Branch



Clyde R. Hudson
Buffalo Branch



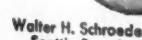
Ralph Parham
Jacksonville Branch



James E. King
St. Louis Branch



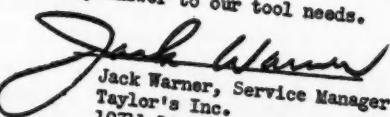
Evert H. Caton
Kansas City Branch

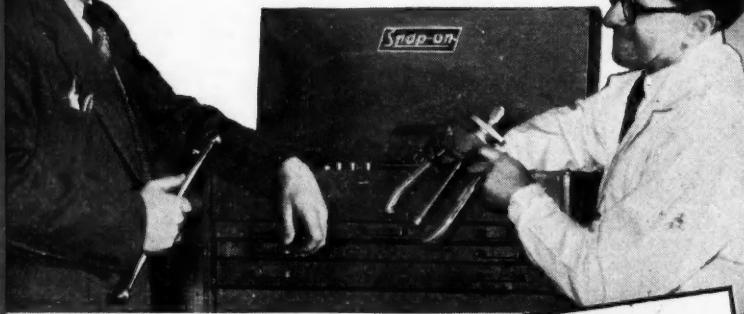


Walter H. Schroeder
Seattle Branch

February 12, 1951

Using Snap-on Tools is a habit in our shop. The combination of Snap-on quality and Snap-on service through their salesman, Mr. Hugo Biegel, has proved the most economical, time-saving, satisfactory answer to our tool needs.


Jack Warner, Service Manager
Taylor's Inc.
19711 Livernois Avenue
Detroit, Michigan



Snap-on Tools

• Service Manager Warner tells you why thousands of shops—tens of thousands of mechanics—look to their Snap-on Man for what's new and best in hand and bench tools. *Snap-on Tools plus Snap-on Service!* Top quality professional tools, brought right into your shop—right to the bench—where a man can select and try them *on the job!* No waste time. No guesswork. He *knows* the tool's the one he wants—that it does the job properly. Shops and their men, the nation over, have boosted income 20 to 40 per cent after equipping with Snap-on Tools. Write for your copy of the 104-page Snap-on Catalog of more than 4,000 quality tools.

*Snap-on is the trademark of Snap-on Tools Corporation.

SNAP-ON TOOLS CORPORATION

8026-G 28th Avenue
Kenosha, Wisconsin



Most New Legislation Good

Continued from Page 82

the maximum limit in existing law was not changed.

A bill that has passed first reading in the PENNSYLVANIA Senate would increase the gross weight of 3-axle tractor semi-trailers from 45,000 lbs. to 48,000 and a 4-axle tractor semi-trailer to 60,000 lbs. This measure also provides some increases in registration fees for heavier vehicles.

Proposed changes in size and weight limits were defeated in DELAWARE, INDIANA, KANSAS, NEW MEXICO and NORTH CAROLINA.

Changes are still pending in ILLINOIS and MISSOURI.

Increased Penalties

CALIFORNIA imposed fines graduated from \$10 if the excess weight is

1000 to 1500 lbs., to \$1,000 if excess weight is 12,501 lbs. or more.

INDIANA amended penalties enacted in 1949 to provide for impounding of vehicles exceeding size and weight limits until all fines and costs have been paid. In addition to a fine graduated to 10¢ per pound provided by existing law, the operator can be charged with a felony and subject to a fine of \$500 to \$1,000 and imprisonment of one to five years. Any owner who is convicted more than 30 times in a year for violation of size and weight limits shall be prohibited from using the highways for 30 days and his certificate or permit suspended for a like period.

IOWA provided penalties for violation of axle weight limits graduated from \$1.00 per 100 lbs. of excess weight up to 8 per cent, to \$8.00 per 100 lbs. if the percentage of overweight is more than 20 per cent. Slightly heavier penalties are provided for violation of gross weight limits.

MAINE provided penalties graduated from \$20 if excess weight is 1000 to 2000 lbs. and \$500 and costs of court if the excess weight is 10,000 lbs. or more.

MARYLAND imposed a penalty of 2¢ per pound if the excess weight is less than 5000 lbs., and 6¢ per pound if excess weight is over 5000 lbs.

MINNESOTA prescribed a minimum fine of \$25 if excess weight is 1000 to 2000 lbs. If the gross weight exceeds 2000 lbs., the fine shall be not less than \$50 for each offense.

NORTH DAKOTA imposed fines graduated from 1¢ per pound of excess weight of 1000 to 2000 lbs., and 10¢ per pound for each pound of excess weight over 5000 lbs.

A bill passed by the OHIO Legislature, not yet signed by the Governor, provides a \$25 fine plus \$1.00 per 100 pounds of overweight in excess of 5000 lbs., but not in excess of 10,000 lbs. If the excess gross weight is more than 10,000 lbs., \$25 fine and \$3.00 per 100 pounds of overweight or imprisonment for not more than 30 days.

Bills imposing similar drastic penalties failed of enactment in ARIZONA and NEBRASKA.

Similar severe penalties are pending in the legislatures of ILLINOIS, MICHIGAN, PENNSYLVANIA and WISCONSIN.

Gasoline Taxes

GASOLINE taxes were increased from 4 to 5 cents per gallon in each of the following states: NEW HAMPSHIRE, NORTH DAKOTA, SOUTH DAKOTA, UTAH and WYOMING. MICHIGAN increased its tax rate 2 cents per gallon. GEORGIA permitted a temporary 1 cent increase to expire

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COMMERCIAL CAR JOURNAL, July, 1951

and NEW MEXICO reduced its tax from 7 to 6 cents per gallon.

Proposed increases failed of enactment in ARKANSAS, COLORADO, INDIANA, MONTANA, NEBRASKA, NEW JERSEY, NORTH CAROLINA, OHIO, OKLAHOMA, TEXAS, VERMONT and WEST VIRGINIA.

Proposed increases are still pending in CALIFORNIA, ILLINOIS, MASSACHUSETTS, MISSOURI and WISCONSIN.

Mileage Taxes

Mileage taxes have been enacted thus far in two additional states, IDAHO and NEW YORK.

The rates in IDAHO range from 1.1 mill per mile if gross weight is 6000 lbs. or less to 25.7 mills per mile if gross weight is between 34,000 and 36,000 lbs., plus .38 mills per mile for each additional ton over 36,000 lbs.

The rates in NEW YORK range from 6 mills if gross weight is 18,000 to 20,000 lbs., to 24 mills if gross weight is over 62,000 lbs.

Proposed mileage taxes were defeated in COLORADO, DELAWARE, MARYLAND, MONTANA, NEBRASKA and WEST VIRGINIA.

Bills are still pending in the legislatures of MISSOURI and OHIO.

Registration Fees

INDIANA increased the license fee for each additional semi-trailer used with a tractor from \$5 to \$25.

MONTANA changed the basis for registration of trucks and trailers from the manufacturer's rated capacity to gross weight. The fee for trucks is graduated from \$6 if the weight is 6000 lbs. or less, to \$320 if weight is between 40,000 and 42,000 lbs. The fee for trailers is graduated from \$4.50 if gross weight is 6000 lbs. or less, to \$240 if weight is between 40,000 and 42,000 lbs. Buses pay \$7 per passenger capacity on all capacity over seven. A tax of 1 1/2 per cent of the value is also imposed on new passenger cars.

MICHIGAN imposed new fees on trucks over 8000 lbs. net weight graduated from \$1.50 per 100 lbs. if net weight is 8000 to 10,000 lbs., to \$2.00 per 100 lbs. if net weight is over 15,000 lbs. Registration fees for tractors and semi-trailers are graduated from 65¢ per 100 lbs. if net weight is 2500 lbs. or less, to \$2.00 per 100 lbs. if net weight is over 10,000 lbs.

NEW YORK changed the basis of registration fees on trucks from 80 cents per hundred pounds of manufacturer's shipping weight to 50 cents per 100 lbs. of gross weight.

NORTH DAKOTA provided slight increases in registration fees for passenger cars and an increase of about

20 per cent in truck registration fees.

WEST VIRGINIA changed registration from capacity basis to a gross weight basis with fees graduated from \$17.50 if gross weight is 4000 lbs. or less, to \$62.75 for gross weight of more than 16,000 lbs., plus 75 cents for each 100 lbs. in excess of 16,000. Proposed registration fee increases are pending in ILLINOIS, MASSACHUSETTS and MISSOURI.

Reciprocity

MINNESOTA and NORTH DAKOTA have both passed more restrictive

laws on reciprocity that may have the effect of cancelling existing reciprocal arrangements.

On the other hand, KANSAS with its ports of entry, has broadened its powers to make reciprocity agreements in an apparent effort to improve the reciprocal relations of that state.

The INDIANA bill that would have removed all reciprocity on heavier commercial vehicles was killed.

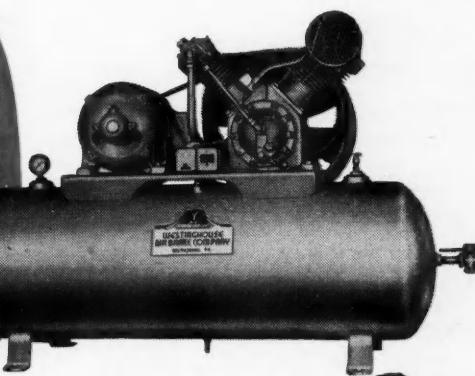
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Please Resume Reading Page 84

IT HOLLERS FOR HELP BEFORE IT'S HURT—



that's why the
Westinghouse
"Y"
compressor
saves you money!



When the average compressor howls for help because someone forgot the oil, the damage is done. It's too late for anything but a repair job.

But the Westinghouse "Y" hollers before it's hurt. You get an immediate SOS—for it refuses to pump air. This NO OIL-NO AIR warning calls immediate attention to the oversight, which can be corrected before damage results.

When you are looking for a dependable air supply—on the job day-in, day-out, year-in, year-out—you'll find just what you need in the Westinghouse "Y". It has every modern feature—automatic pressure control, two stage compression, pressure lubrication, air cooled design—that you'll find in any quality compressor, PLUS the three

Only the
Westinghouse "Y"
gives you ALL THREE

Low Oil Level Protection—No Oil—No Air, bars wear and repair.

Thermal Overload Protection—Standard, at no extra cost, on the "Y".

Starting Unloader—Compressor remains unloaded till speed and oil flow are normal.

important protection features listed above. These extras pay off in longer service and lower costs for you.

Westinghouse "Y" Compressors are available with displacements from 6.2 to 68 cfm—motor capacities from 1 1/2 to 15 hp.

Westinghouse Air Brake Co.

Industrial Products Division—WILMERDING, PA.
Factory Branch: EMERYVILLE, CALIFORNIA

WRITE FOR
BULLETIN
IDC 9302-3.

DISTRIBUTORS THROUGHOUT THE UNITED STATES . . . CONSULT YOUR CLASSIFIED DIRECTORY
DISTRIBUTOR IN CANADA: CANADIAN WESTINGHOUSE CO., LTD., HAMILTON, ONTARIO

West Coast Fleet Operator

Thousands of Other Users

Literally thousands of FLEETS are now using the SPECIALLY ENGINEERED Gates TRUCK Belt. Here are just a few well known users:

Ask Them About Gates TRUCK BELTS

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Borden Farm Products

SAN FRANCISCO, CALIF.
Walkup Drayage & Warehouse Co.

PITTSBURGH, PA.
The Oriole Motor Coach Lines, Inc.

SOMERVILLE, MASS.
H. P. Welch Company

WASHINGTON, D. C.
Capitol Transit Co.

NEW ORLEANS, LA.
Couch Motor Lines, Inc.

NASHVILLE, TENN.
C. B. Ragland Company

PORLAND, ORE.
Ross Island Sand and Gravel Co.

KANSAS CITY, MO.
Kansas City Public Service Co.

DALLAS, TEXAS
East Texas Motor Freight Lines

LOUISVILLE, KY.
Ewing-Von Allmen Dairy Co.

PHILADELPHIA, PA.
Freihofer Baking Co.

DENVER, COLO.
Denver Chicago Trucking Co., Inc.

PHILADELPHIA, PA.
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Hegeman Farms Corporation

CINCINNATI, OHIO
Cincinnati Street Railway Co.

NEW YORK, N. Y.
The General Diaper Service

CLEVELAND, OHIO
Central Greyhound Lines

DETROIT, MICH.
Great Lakes Greyhound Lines

UNITED TRUCK LINES, INC.
Spokane, Washington

The Gates Rubber Co.
Denver, Colorado

Gentlemen:

We find that your Model 50 TS belts, specially engineered for trucks, have cut belt expense on our Cummins Diesels by 75% and we have had no road delays caused by belt failure.

L. J. Polney

Purchasing Agent

Specially Engineered for TRUCKS and BUSES

In addition to having a tough, multiple-ply cover of more than double durability, Gates TRUCK Belts are built with RAYON Cords. You know how greatly RAYON Cords increase the life of truck TIRES. Why not get the advantage of 50% to 80% longer wear in your truck BELTS by insisting on the Belt that is specially engineered for TRUCKS and BUSES—the GATES TRUCK BELT.



The Mark of SPECIALIZED Research

THE GATES RUBBER COMPANY

Denver, U.S.A.

World's Largest Makers of V-Belts

Says:

GATES TRUCK BELTS

"Have cut our belt costs
by 75% and we have no road delays"

The *written* statements of well known fleet operators—like United Truck Lines, Inc., of Spokane, Wash.—tell a story of real importance to every operator who cares about reducing his costs and increasing his profits.

We have similar statements from many, many big operators. And these statements are all made by *practical* men—General Managers of Fleets—Purchasing Agents—Superintendents of Maintenance—men who know from *experience* just how important a good truck belt is in keeping trucks on schedule, in avoiding costly delays, in reducing operating costs—in getting shipments delivered *on time* and *at a profit*!

These men know, as you do, that a truck belt is really a most important part of the motor. No truck can run without a belt. And, while the belt's initial cost is small, it can cost a lot of dollars if at some critical moment it fails and holds the truck idle while a road service call is made.

Saving Road Delays Pays Big Dividends

Ask any user of Gates Truck Belts and they will tell you they are cutting their *belt costs in half*—or more—due to the much longer service given by these specially engineered belts. They will also emphasize particularly the *even greater* savings these belts give them by cutting down road delays and thus increasing priceless *operating time*—the only thing that pays them (or you) a profit.

We believe that you will want to consult some of these users. That is why we publish (on the preceding page) several of their names. You will surely notice one or two whom you know and can question in full confidence. Let their experience convince you that you, too, can profit by using the belt that is specially engineered for Trucks and Buses—the GATES TRUCK BELT.

Look for This **T***

Look for the letter "T" on the belt itself—as well as on the label of every belt you buy for truck service. "T" means that the belt has been specially engineered for TRUCKS and BUSES. You can be sure of getting the belt designed for this more demanding service only by seeing to it that you are delivered belts which bear this letter "T".

Gates
Belt Jobbers
in Every
Distributing
Center
Can Supply
You Promptly

*REG. U. S. PAT. OFF.

ATA Spring Meeting

Continued from Page 70

the use of the decal. Among them had been many private carriers, although none were represented at the particular safety meeting in San Francisco. Most members of the council left the meeting with mixed emotions. Some were strongly in favor of the use of the entire program, while others had strong mental reservations based on long-established legal opinion against the

use of signaling. Developments within the next year may indicate a complete reversal of opinion throughout the industry.

1951-52 Activities

A second important topic of discussion concerned participation by ATA and particularly its Safety Council in winter driving tests which have been conducted in recent years primarily by the National Safety Council and individual cooperating truck manufacturers. It was felt that the results of several of these tests, particularly concerning

braking on multi-axle vehicles, might not be truly representative of the national picture and it was urged that the ATA join actively with the National Safety Council in the conduct of future tests. A resolution to this effect was to be drawn up by the Council's steering committee and submitted to ATA management for final action.

There was also considerable discussion concerning the activation and operation of state chapters of the National Safety Council. There were several reports of successful operations in various states, including Texas, Ohio and North Carolina.

It was announced that the 1952 rodeo would be held as a separate function from the annual meeting in 1952, presumably at some location along the Mississippi River Valley. Meanwhile, plans for the 1951 rodeo, already well under way, will be completed in conjunction with the annual meeting in Chicago in the fall of 1951. The 1952 Spring Meeting of ATA will be held in Columbus, Ohio.

In a major paper presented at the meeting, V. L. Christiansen, personnel director of Pacific Intermountain Express, stressed the growing needs for continuous training programs at all employment levels as a hedge against the growing manpower shortage. He outlined his company's plans for conference instruction and job training and made frequent reference to the Job Instruction Training Program during World War II. He urged that every man concerned with personnel problems perform two important tasks. First, do the best job possible in training; second, sell management on the need for a continuous program.

Dr. Ross McFarland, the Harvard School of Public Health, made his second appearance before the Safety Council (the first was in Chicago at the 1950 meeting) and soon made listeners realize that his organization had made rapid progress from its original theoretical approach toward a very practical analysis of present day problems. Speaking chiefly of cab designs he highlighted many specific defects particularly with regard to very tall and very short drivers. As an example he pointed out that only 70 per cent of an average group of drivers tested could get their knee under the steering wheel and their foot on the brake at the same time. Yet 98 per cent of the Champion drivers at last year's Roadeo could do so. The implication is clear that while most cabs are of good design for the average driver, the very tall or the very short are operating under severe handicaps.

END

Please Resume Reading Page 72

COMMERCIAL CAR JOURNAL, July, 1951



EBERHARD *Long Run*
TRUCK BODY FITTINGS

EBERHARD MANUFACTURING CO.
Division of the Eastern Malleable Iron Co.
EVARTS AVENUE
CLEVELAND, OHIO

Industry Advisory Committees Comprise Top Industry Experts

THERE ARE MANY problems incident to the operation of a fleet of commercial vehicles during wartime conditions that can be solved only by the clarification or extension of government orders on the policy level. The need for more vehicles, tires or parts, for example, when a fleet carries cargoes for a war materiel contractor or subcontractor, often requires a review on higher levels, especially if the haulage embraces two or more regional regulatory zones.

As in World War II, one regional manager may interpret regulations one way, another another way. Thus such extensive problems may have to be brought to the attention to one of the Industry Advisory Committees serving the various wartime government agencies. In that way clarification to benefit all industry will result.

The commercial vehicle and automotive transportation advisory committees comprise men who have an excellent understanding of a fleet operator's problems, as indicated by the following lists of membership just released by the United States Department of Commerce.

Membership of the Motor Truck Manufacturers Industry Advisory Committee is comprised of the following:

E. F. Coogan, President

Autocar Company
Ardmore, Penna.

W. W. Bowers, President
The Corbitt Co.
Henderson, N. C.

Furber Marshall, President
Dart Truck Co.
2623 Oak St.

Kansas City 8, Mo.

E. J. Bush, President
Diamond T. Motor Car Co.
4401 West 26th St.
Chicago 23, Ill.

L. J. Purdy, Vice President
Dodge Division
Chrysler Corporation
Detroit 31, Mich.

J. D. Ball, Manager
Products Sales & Service
Ford Motor Co.
Dearborn, Mich.

Robert A. Olen, General Manager
Four Wheel Drive Auto Co.
Clintonville, Wis.

R. G. Ford, Manager
Assembly Plant
Chevrolet Motor Division
General Motors Corp.
Detroit 2, Mich.

J. E. Johnson, General Sales Manager
GMC Truck & Coach Division
General Motors Corp.
Pontiac 11, Mich.

D. A. Conroy, Manager
Supply and Inventory
International Harvester Co.
180 North Michigan Ave.
Chicago 1, Ill.

E. D. Bransome, President
Mack Trucks, Inc.
Empire State Building
New York, N. Y.

David P. Harr, Assistant to President
Peterbilt Motors Co.
10700 Mac Arthur Blvd.
Oakland 5, Calif.

John C. Tooker, Assistant to President
Reo Motors, Inc.
1331 South Washington Ave.
Lansing 20, Mich.

Herbert Hughes
The Studebaker Corp.
South Bend 27 Ind.

...always good
operating practice

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...NOW A "MUST" WHEN
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As conclusively proven
by hundreds of Fleet
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reduce gas and oil con-
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that means more accurate
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Robert F. Black, President
White Motor Co.
Cleveland 1, Ohio

D. T. Ellis, Manager
Truck & Fleet Sales Division
Willys-Overland Motors
Toledo 1, Ohio

The membership list of the Truck
Trailer Manufacturers Industry Ad-
visory Committee is as follows:

W. L. Baker, President
Baker Trailer & Body Co., Inc.
700 North 20th St.
St. Louis 3, Mo.

T. C. Brown, President
Brown Trailers, Inc.
Spokane, Wash.

Cottrell Farrell, President
Easton Car & Construction Co.
P. O. Box 270
Easton, Penna.

John Evans, President
John Evans Manufacturing Co.
Sumter, S. C.

L. C. Allman, Executive Vice President
Fruehauf Trailer Co.
10940 Harper Ave.
Detroit 32, Mich.

Daniel Ellis, Executive Vice President
Gramm Trailer Corp.
Delphos, Ohio

W. E. Grace, Vice President
Hobbs Manufacturing Co.
609 North Main St.
Fort Worth, Tex.

R. C. Tway, Jr.
Kentucky Manufacturing Co.
2601 South Third St.
Louisville 8, Ky.

W. C. Nabors
W. C. Nabors Co.
Mansfield, La.

Christopher F. Hammond, Jr. Vice Presi-
dent

The Steel Products Co., Inc.
Post Office Box 1007
Savannah, Ga.

S. E. Biggs, Vice President
The Trailmobile Co.
31st and Robertson Ave.
Cincinnati 9, Ohio

J. L. Glick, President
Truck Engineering Corp.
1285 West 70th St.
Cleveland 2, Ohio

John Bennett, General Manager
Utility Trailer Mfg. Co.
Box 3608, Terminal Annex
Los Angeles 54, Calif.

Ralph Veenema, President
Veenema & Wiegers, Inc.
Paterson 2, N. J.

C. A. Persinger, President
Wilson Trailer Co.
2400 Leech Street
Sioux City, Iowa

The membership list of the Rubber
Industry Advisory Committee follows:

F. D. Hendrickson, President
American Hard Rubber Co.
11 Mercer St.
New York 13, New York

James A. Walsh, President
Armstrong Rubber Co.
475 Elm St.
West Haven 16, Conn.

R. E. Drake, President
Avon Sole Co.
High St.
Avon, Mass.

Charles H. Baker
Charles H. Baker, Inc.
44 Warren St.
Providence 7, R. I.

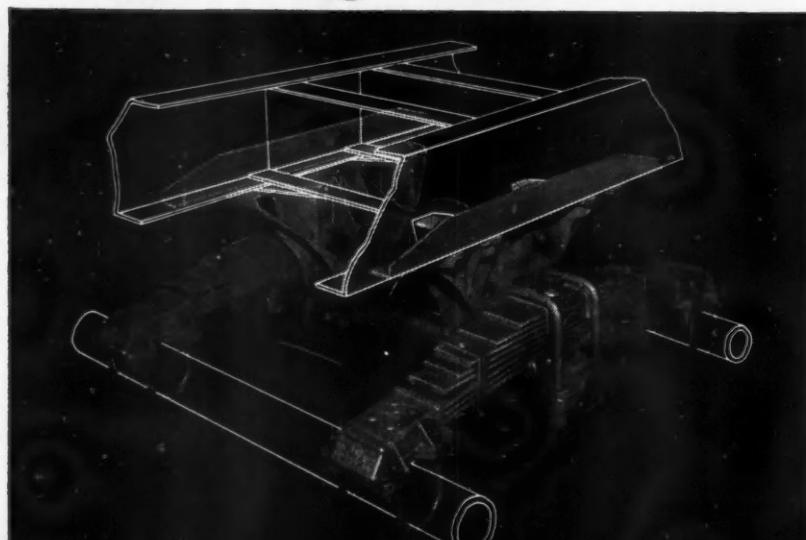
John M. Bierer, Executive Vice President
Boston Woven Hose & Rubber Co.
29 Hampshire St.
Cambridge 39, Mass.

Furber Marshall, President
Carlisle Corp.
Carlisle, Pa.

A. L. Freedlander, President
Dayton Rubber Co.
2342 West Riverview Ave.
Dayton 1, Ohio

O. G. Vinnedge
Dryden Rubber Co.
1014 South Kildare Ave.
Chicago 24, Ill.

(TURN TO PAGE 222, PLEASE)



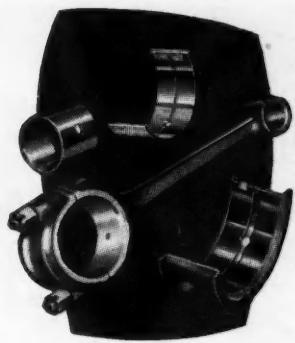
very successfully reducing transportation
and maintenance costs for America's truck operators.

WRITE FOR
FOLDER!



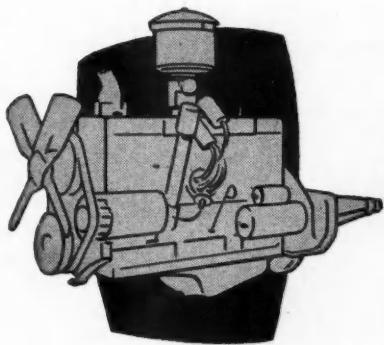
ALSO MANUFACTURERS OF THIRD AXLES FOR TRUCKS AND TRAILERS

For engine bearings of



top quality... to do the best

engine



reconditioning



...look for this

trade-

mark... and the red-and-black

FEDERAL-MOGUL



package!

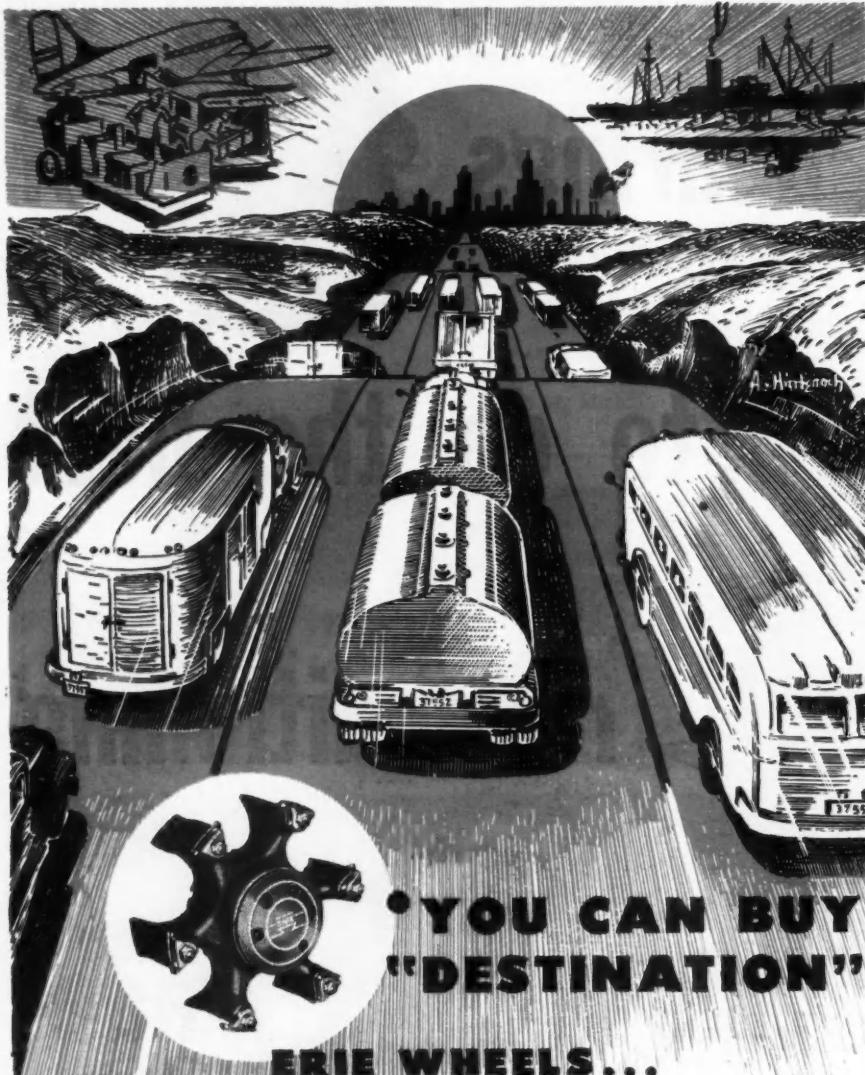
THE COMPLETE LINE—
MORE THAN 7000 ITEMS

Engine Bearings (Main, Connecting Rod and Camshaft)
• Bushings • Connecting Rod Service—Reconditioned
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FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



Conference Corner

Continued from Page 6

that the improvement can be incorporated in later models or set up as optional equipment. By so doing, the owner at least saves himself the purchase of a substitute part for a brand-new unit and may help to influence the vehicle manufacturer to specify better quality units.

If units in an electrical system are found to be actually defective or definitely inadequate, the owner should notify the manufacturer immediately. This is not only good practice from a warranty standpoint, but also helps to avoid the possibility of damaging the remainder of the electrical system through the introduction of "heavy-duty" parts of unknown quality. Prompt information on defects or inadequacy also enables the electrical equipment manufacturer to take any steps necessary to correct design or replace stock, thus insuring the owner of less trouble in the future.

Because certain types of service are known to introduce very special problems into the electrical system, original equipment manufacturers have developed some specialized or "heavy-duty" units for use under such circumstances. These units are not used or recommended for general service but are adapted to the unusual or extreme type of service. An excellent example is the Delco-Remy "city" ignition coil which is recommended for city buses and similar vehicles operated more or less continuously in the lower speed ranges. This coil does not upset the balance of the electrical system but does relieve certain difficulties common to this type of service. Substitutions of this kind are based on extensive research and experience and, of course, can be made safely. The indiscriminate substitution of so-called "heavy-duty" parts into the electrical system, however, is not only unnecessary in most instances but often the source of future trouble in other completely satisfactory original units.

Perhaps the best reason of all for avoiding promiscuous substitution of electrical units ("heavy-duty" or otherwise) is that extreme care, good instrumentation, and prolonged study are absolutely necessary for determining whether or not a change is beneficial. Many times a seeming improvement by substitution at one point is more than offset by the introduction of other problems, or is the result of some factor totally unrelated to the change made.

END

Please Resume Reading Page 10

COMMERCIAL CAR JOURNAL, July, 1951

You Can Specify . . .

Erie Wheels

ERIE MALLEABLE IRON COMPANY

Automotive Wheel Division
ERIE • PA.



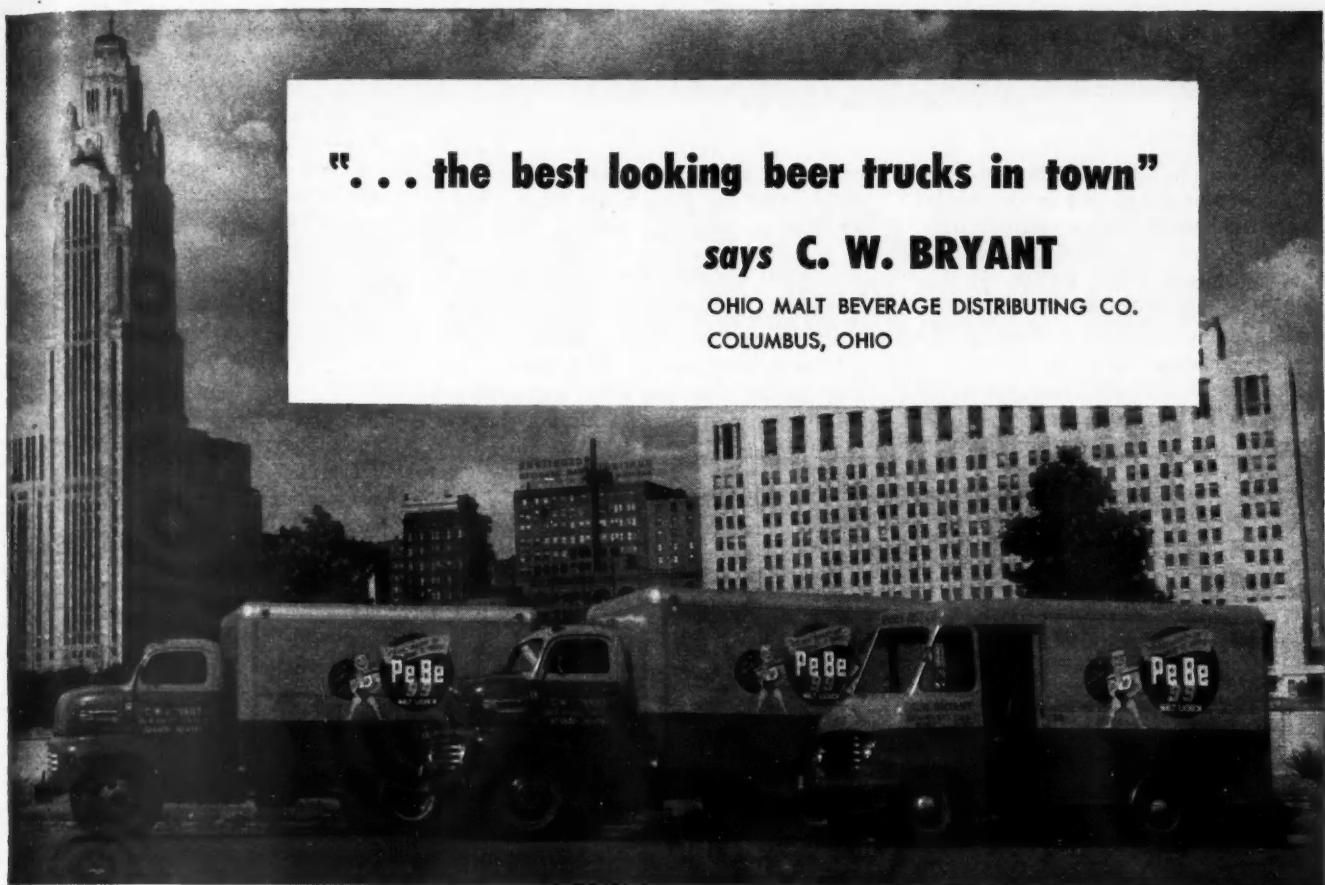
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6

“... the best looking beer trucks in town”

says C. W. BRYANT

OHIO MALT BEVERAGE DISTRIBUTING CO.
COLUMBUS, OHIO



The LS Bodies on these three trucks were built for C. W. Bryant by Hercules Body Sales Co., Columbus, Ohio

... but the beauty of these Lindsay Structure bodies is more than "skin deep"

In a recent letter to LS body manufacturer Hercules Body Sales Co., C. W. Bryant, Ohio Malt Beverage Distributing Co., Columbus, Ohio, says:

"Having been in the transportation business for about 50 years, I'm naturally well acquainted with many makes of truck bodies, but from here on—I'll take a Lindsay.

"You've certainly proved your point about the merits of this construction. In the months I've owned and operated my three new Lindsay Structure bodies, their low maintenance costs, operational efficiency and handsome appearance have shown an old hand that Lindsay

Structure bodies are tops for transportation in any industry. To say they're the best looking beer trucks in town is to say the least."

Mr. Bryant's experience is typical. Most fleet operators buy their first LS body because of appearance—but subsequent orders are based on performance records . . . 48% of all Lindsay Structure bodies built last year were for repeat customers.

Ask your nearby Authorized LS Body Manufacturer today to show you the many ways you benefit from this patented method of truck body construction. If you do not have his name and address, write



LINDSAY
ls STRUCTURE

Lindsay Structure, Inc.
5000 West Dempster St., Skokie, Illinois

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

MTA's Self-Policing Mission

Continued from Page 63

"Don't think he's illegally loaded, however. Whatever he's got in the trailer has shifted while he was on the road, throwing too much weight on one axle. I warned him to watch it the next time and let him go."

It takes no time at all to weigh the biggest combination. The driver just creeps up on the platform, peers out anxiously if he has reason to believe

he's near the legal load limit. The scale inside the glass house records his weight and he keeps rolling.

Drivers Are Cooperative

THAT bring up a question: How are the drivers reacting to all this?

Here's where you get the biggest surprise of all. Not one driver protested; not one undertook to hide anything.

They seemed more than willing to cooperate in the inspection, which they obviously understood was for their own good as well as the public's.

The night we left Detroit for Erie, we picked up Photographer Roy Bash; a newspaper cameraman wise in the ways of men and women who fall into just two categories in his world—those who want to see their pictures in the paper and those who don't.

Said Roy, "I have a feeling those tough truck drivers aren't going to go for this."

Were we surprised when we eased up to the first truck at the roadblock!

The man in the cab was George Dunn, and he was driving for Truck Transport out of Wayne, Mich. Cy Reffert, safety man for a competitive company, was checking him.

When Dunn stepped out of the cab, we saw a man with a great big smile on his face and hands full of log books, fusees, flags and things they carry in truck cabs for safety's sake—which he had pulled out of containers for the inspector to see.

All the time the inspection was taking place there was good-natured banter among the checkers and the driver. He didn't resent being checked at all. Indeed, he was obviously pleased that he had been one of the lucky few to have been flagged down. He was shipshape: Everything was in perfect order, in and around the tractor-semi; and he seemed glad to let the world know about it.

The report on Dunn, which goes back to his company and, also, into the files of the MTA, showed only two or three minor faults—one clearance light out and he was short of the required number of extra bulbs in his kit.

It takes about ten minutes to check a driver and his equipment, and as the night wore on other rigs pulled into the roadblock and stopped for inspection. Between 9 p. m. and midnight, approximately 25 of them were given "the works."

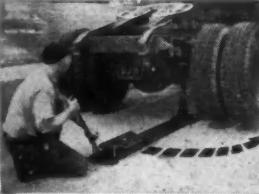
To name more names, here are the men and companies who stopped at Erie that night:

Paul R. Young, Norwalk Truck Line, South Bend, Ind.; Warren Guen, Norwalk, out of Norwalk (O.) headquarters; G. Perry, Norwalk, Medina, O.; Albert Wigley, E & L Transport, Detroit, with a load of automobiles; Albert Tupels, the Geo. F. Alger Co., Detroit; Paul Case, Long Transportation Co., Wyandotte, Mich.; Robert Helm, Long, Trenton, Mich.

Dallas C. Mitchell, Hancock Trucking, Inc., Detroit; Nelson Bollowman, Hancock Trucking, Inc., Flat Rock, Mich.; James Wilson, Kramer Bros., Highland Park, Mich.; Edgar C. Vess, (TURN TO PAGE 128, PLEASE)

Take it easy

WITH THE DRUM Safety JACK



SPOT IT—under any axle, from any angle.



SWING IT—Bring dollies into position for removing wheels without lifting.



LEVEL IT—Pull wheels easily without damage to bearings or seals.

WITH SWIVEL ACTION

Do tire, brake and bearing jobs faster—without breaking your back or crawling under trucks. This heavy-duty jack works anywhere—under any wheel. One man does two men's work with a DRUM Safety JACK.



THE CLEVELAND PNEUMATIC TOOL CO.

Automotive Division

3769 EAST 77th STREET • CLEVELAND 5, OHIO

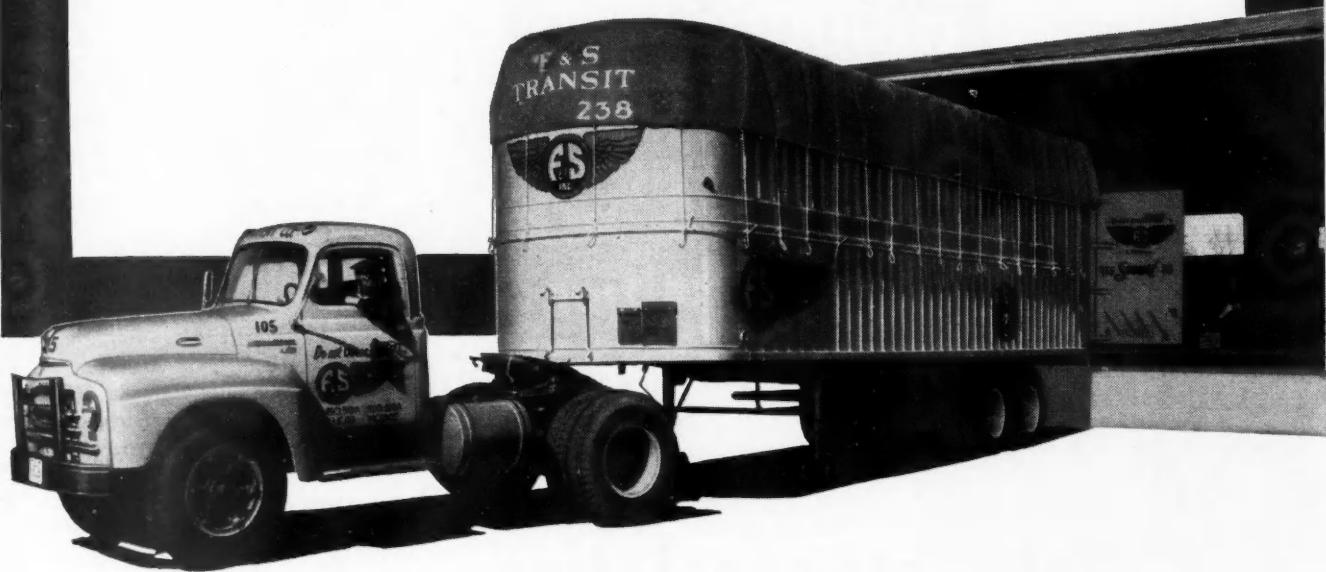
We would like to know more about the DRUM Safety JACK.

Name _____

Address _____

EDWARDS

**TAILORS TRAILERS ON A PRODUCTION BASIS
TO FIT THE JOB THEY'LL HANDLE**



Need more inside body height? More width? Will those extra dimensions add to the ease of handling bulky freight . . . cut your overhead? Production line flexibility has been so highly developed by Edwards that you can get standard Edwards trailers practically "tailor-made" like this for your job.

Edwards trailers are engineered for hard work and full time duty. They incorporate

every construction feature that has proved sound in practice on the highway. They are built to keep rolling down the road, delivering the goods, for years to come.

You'll find Edwards "tailor-made" trailers are easy rolling, long-lived profit makers in your fleet.

Write today for details. Dept. C-7



CORRUGATED TRAILERS



HEAVY DUTY FLATS



SMOOTH PANEL TRAILERS



TRUCK BODIES



TRAINS—DOUBLE BOTTOMS



TANDEM HEAVY DUTY TRAILERS

EDWARDS

**TRAILER AND BODY COMPANY
DIV. OF EDWARDS IRON WORKS, INC.
SOUTH BEND 23, INDIANA**

Self-Policing

Continued from Page 126

Red Star Transit Co., East Liverpool, O.; Arthur Lagore, Hancock Trucking, Inc., Adrian, Mich.; Frank T. Vedder, Alger, Waltz, Mich.; Driver No. 418881, Kramer Bros., Saginaw, Mich.

Peter R. Merdick, Alger, Youngstown, O.; Lester W. Drum Truck Transport, Detroit; Woodrow W. Miller, Truck Transport, Mt. Clemens, Mich.;

Weldon L. Pulle, Hancock Trucking, Inc., Indianapolis; Everett A. Vander Mueller, Truck Transport, Ferndale, Mich.; Howard Bedlo, E & L Transport, Reading, Mich.; Douglas Wake-man, E & L Transport, Dearborn, Mich.; Robert Carter, Norwalk, Norwalk, O., and Melvin Guiden, Truck Transport, Detroit.

All Equipment Satisfactory

A CAREFUL analysis of the reports on these drivers and their equipment shows that all were 100 per cent

roadworthy, and approximately 98 per cent were in full compliance with every rule of the road that is prescribed by the Interstate Commerce Commission, the Michigan Public Service Commission, and other enforcement agencies.

Not one of the trailers passing over the scale and into the inspection island was overloaded.

Another significant thing was that every piece of equipment was in tip-top mechanical condition, and most of the tractors and trailers had the appearance of having been washed sometime during the day or evening. Much of the equipment was practically new.

The men in the cabs, selected, as has been pointed out, at random as they pulled up to the scale, had the clean-cut and neat appearance that is characteristic of today's over-the-road driver. Many more tailored uniforms and snappy headgear.

A number of the tractors displayed not only the name of the company and other marking required by the ICC and MPSC, but also the name of the driver.

It was an impressive show of modern motor transportation—unrehearsed, and at its very best.

The impression one got there at the roadside was that here is an industry come of age, an aggregation of men and machines performing a service for industry, for the public and for the nation in such a way that reflects credit on management and employee alike.

The company safety supervisors say that there has been vast improvement in driver conformity to the rules since the road supervision program was launched. The drivers pay more attention to log books. They watch their lights, tires, pots, fuses, flags, brakes, fire extinguishers, extra bulbs and fuses much more closely than they ever did before.

Knowing that he may have to undergo inspection on the road, the driver is taking it upon himself to see that everything is in order before he leaves his terminal on a trip over the road.

Another phase of the Michigan safety supervisors' check is showing good results, management says. This is what is known as the rolling inspection. It is accomplished by teams of inspectors in cars marked with company insignia (safety cars) observing equipment and driving techniques and practices, and making note of findings on paper.

There have also been a number of cases where the inspectors have been able to come to the assistance of a truck driver in trouble on the road.

Not All MTA Members Active

NOT all of the companies represented in the membership of the MTA are actively working at the road-supervision (TURN TO PAGE 130, PLEASE)



Help Transportation and You Help the Nation

• Sell Niehoff Ignition Service and you serve transportation with the best. Niehoff Ignition Parts are precision built. They're backed by the famous Niehoff warranty and consistently advertised. Ask your jobber.

C. E. NIEHOFF & CO.
4925 Lawrence Ave., Chicago 30, Ill.

BRANCHES:
BOSTON 34, Massachusetts, 254 Brighton Ave.
LOS ANGELES 15, California, 1330 W. Olympic Blvd.
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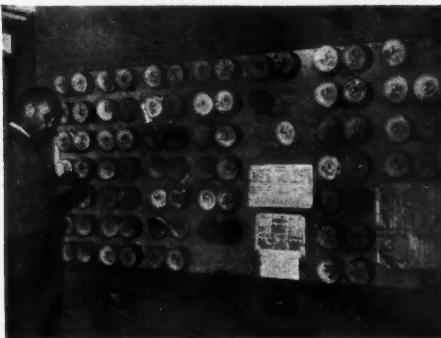
NIEHOFF Warranted Ignition

Tachographs

have helped us get better fuel and tire mileage
and to establish enviable safety records *



*says
Victor M. Jones
LEE & EASTES, Inc.



The vehicles in the fleet of Lee and Eastes travel over some of the toughest terrain in their over-the-road operations between the Pacific Coast and the plateaus of Oregon and Washington . . . through high altitudes, curves, steep grades—rain and snow. Well maintained rolling stock and skilled drivers are what it takes to move heavy loads safely and economically through these mountain passes—and Lee and Eastes have both.

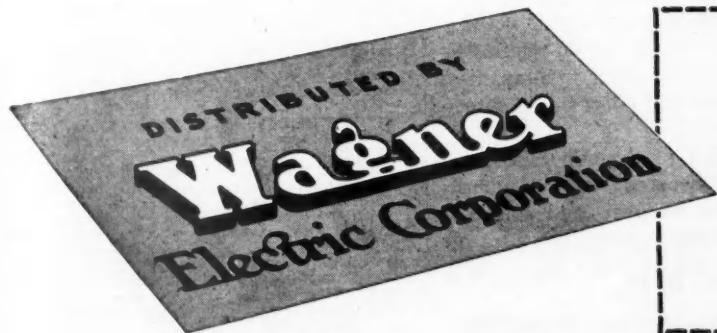
To help their drivers and to keep an accurate check on their Diesel powered vehicles, each unit in their fleet is equipped with a model A Tachograph for m.p.h. and a model B Tachograph for engine r.p.m.

Charts record all Movements

At the start of the run a wax coated card disc is placed in each Tachograph. Automatically operated needle-

like points (each called a stylus), scratch the wax to record all movements. The r.p.m. model registers and records engine revolutions to aid the driver in shifting gears on Diesel units. The m.p.h. model registers the speed, and records all movements of the vehicle—when engine started and how long it idled . . . when vehicle started to move . . . how fast it traveled . . . when vehicle stopped . . . and distance traveled between stops.

Photograph at right shows Mr. Victor M. Jones, Safety Director of Lee and Eastes examining Tachograph Charts. By studying these charts Mr. Jones knows just "what goes on" and what to do to correct any faults. With the aid of the information recorded on these charts this company has reduced maintenance costs . . . lessened the number of accidents . . . and has protected drivers from false traffic violation charges.



Wagner Electric Corporation

6476 PLYMOUTH AVE., ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3B.

Name and Position _____

Company _____

Address _____

City _____ State _____

We operate _____ Vehicles
(NUMBER)

501-9

Self-Policing

Continued from Page 128

enterprise. Some, according to the safety supervisors, are still of the opinion that it is not worth the effort. Others, we were told, believe it is an unnecessary intrusion on the drivers' privacy. Still others, they say, feel that the job of inspection should be left to the state and local authorities.

State police representatives were at Erie the night the inspection took place. They are always present at roadblocks to keep traffic moving and otherwise to assist the fleet supervisors who are trying to help the law enforcers. Also at Erie that night were other state officials, including the chief of the MPSC Enforcement Division, Clair McWhorter, of Lansing. ICC representatives usually are present also, but on this night the Commission was not represented.

Here are the supervisors and their assistants who participated in the Erie inspection:

John R. Cross, MTA supervisor of safety; Guy Mulholland, Detroit Police Department's commercial driver relations representative; Al LaVanway, U. S. Truck Co.; Kenneth Clay, Associated Truck Lines; W. Earl Givens, Jr., and Cy Reffert, the Geo. F. Alger Co.

William Merritt, Fred Heiden and Tom Horan, of Heck deTavernier; Richard Boose, Norwalk Truck Line; William Adams and Ivan Hausknecht, Markel Service; Geo. B. Foster and Roscoe Redmon, Hancock Trucking, Inc.

Herb Plucket, Red Star Transit Co.; Gerald Falgmann, American Surety Co.; M. G. Holstine, Long Transportation Co., chairman of the MTA Safety of Personnel Division; Clair McWhorter and W. E. Salisbury, Michigan Public Service Commission; Walter E. Test, Truck Transport; Robert R. Rinchetti, Truck Transport, and Eugene B. Manciu and R. N. Yost, Citizens Mutual Insurance Co.

Program is Continuous

A PROGRAM for the summer months has been adopted by the Michigan supervisors. Road checks and rolling inspections will be carried on regularly, with teams from the various companies giving their time and effort to the enterprise.

It is the plan of the supervisors to continue the checking twice a month throughout the summer and autumn months in various parts of the state.

END

Please Resume Reading on Page 64

DAYTON PRODUCTS

are distributed through
National Wheel & Rim
Association Members



There's Always a "New" Clamp on your hose WITH "Aero-Seal"

The clamp you need is right there when you need it when you've installed Aero-Seals. You re-use the same Aero-Seals again and again—no running to the store or stockroom for replacements!

REPLACE IN ANY POSITION

The Aero-Seal won't crimp, distort hose, cause leakage. Curved band holds pressure even all around—won't cut.

VIBRATION-PROOF

When threads of worm engage with steel slots in band you can't shake an Aero-Seal loose in a million miles of rough driving. Seals tight, stays tight!

ONE-HAND REPLACEMENT

You can install an Aero-Seal any place you can reach with your thumb and one finger. Integral construction . . . no screws to lose. Screw-driver slot and thumb-grip types.

ANOTHER BREEZE MARK PRODUCT

"Aero-Seal" WORM DRIVE HOSE CLAMPS



All Aero-Seals have stain-
less steel bands. Write
today for FREE SAMPLE.

BREEZE CORPORATIONS, INC.

41 South Sixth Street • Newark, N. J.

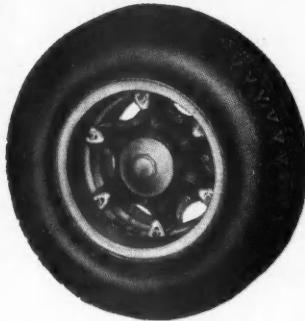
AKRON, Ohio.....Motor Rim Manufacturers Co.
ALBANY, N. Y.....Wheels Incorporated
ALBUQUERQUE, N. M.....Wheels & Brakes, Inc.
ATLANTA, Ga.....Harris Automotive Service, Inc.
BALTIMORE, Md.....R. W. Norris & Sons
BIRMINGHAM, Ala.....Cruse-Crawford Wheel & Rim Co.
BOSTON, Mass.....Harvey Sales & Service Company
BUFFALO, N. Y.....Frey, The Wheelman, Inc.
CALGARY, Alta., Canada.....Fisk Tire Service, Ltd.
CHARLOTTE, N. C., Carolina Rim & Wheel Company
CHATTANOOGA, Tenn., Harris Automotive Ser., Inc.
CHICAGO, Ill.....Stone Wheel, Incorporated
CINCINNATI, Ohio.....Rim & Wheel Service Company
CLEVELAND, Ohio.....Motor Rim Manufacturers Co.
COLUMBUS, Ohio.....Hayes Wheel & Spring Service
CUMBERLAND, Md.....R. W. Norris & Sons
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DAVENPORT, Iowa.....Stone Wheel, Incorporated
DAYTON, Ohio.....Rim & Wheel Service
DES MOINES, Iowa.....Des Moines Wheel & Rim Co.
DENVER, Colo.....Quinn & McGill Motor Supply
DETROIT, Mich.....H. & H. Wheel Service, Inc.
DETROIT, Mich.....Rim & Wheel Service Company
DOVER, Del.....R. W. Norris & Sons
EDMONTON, Can.....Alberta Wheel Distributors, Ltd.
FARGO, N. D.....Pioneer Rim & Wheel Company
GRAND RAPIDS, Mich.....Rim & Wheel Service Co.
HAGERSTOWN, Md.....R. W. Norris & Sons
HARRISBURG, Pa.....Standard Wheel & Rim Co.
HARRISONBURG, Va., Harrisonburg Wheel & Parts, Inc.
HARTFORD, Conn.....Connecticut Wheel & Rim Co.
HOUSTON, Texas.....Southwest Wheel & Equipment Co.
INDIANAPOLIS, Ind.....Indiana Wheel & Rim Co.
JACKSONVILLE, Fla.....Southeast Wheel & Rim Co.
KANSAS CITY, Mo.....Borbein, Young & Company
KNOXVILLE, Tenn.....Harris Automotive Service, Inc.
LOS ANGELES, Motor Rim & Wheel Service of Calif.
LOUISVILLE, Ky.....Auto Wheel & Rim Service
MEMPHIS, Tenn., Beller Wheel, Brake & Supply Co.
MILWAUKEE, Wisc., Stone Manufacturing Company
MINNEAPOLIS, Minn.....Pioneer Rim & Wheel Co.
MONTREAL, Can., General Automobile Equip., Ltd.
NASHVILLE, Tenn., Beller Wheel, Brake & Supply Co.
NEWARK, N. J.....Wheels Incorporation
NEW HAVEN, Conn.....Connecticut Wheel & Rim Co.
NEW ORLEANS, La., Southern Wheel & Rim Service
NEW YORK, N. Y.....Wheels Incorporated
OKLAHOMA CITY, Okla.....Southwest Wheel, Inc.
OMAHA, Nebr.....Morgan Wheel & Equipment Co.
OMAHA, Nebr.....Omaha Rim & Wheel Company
PEORIA, Ill.....Peoria Wheel & Rim Company
PHILADELPHIA, Pa.....Kay Wheel Sales Company
PHILADELPHIA, Pa., Thomas Wheel & Rim Co., Inc.
PITTSBURGH, Pa.....Wheel & Rim Sales Company
PORTLAND, Oregon.....Auto Wheel Service
PORTLAND, Oregon.....Six Robbies, Incorporated
RALEIGH, N. C.....Carolina Rim & Wheel Company
RICHMOND, Va.....Dixie Wheel & Rim Company
ST. LOUIS, Mo.....Borbein, Young & Company
ROCHESTER, N. Y.....Frey, The Wheelman, Inc.
ST. LOUIS, Mo.....Borbein, Young & Company
ST. PAUL, Minn.....Wheel Service Company
SALISBURY, Md.....R. W. Norris & Sons
SALT LAKE CITY, Utah, Henderson Wheel & Rim Serv.
SAN ANTONIO, Texas, Southwest Wheel & Equip. Co.
SAN FRANCISCO, Motor Rim & Wheel Serv. of Calif.
SEATTLE, Wash.....Six Robbies, Incorporated
SOUTH BEND, Ind., Wire & Disc Wheel Sales Co.
SOUTH HILLS, Va., South Hills Wheel & Parts, Inc.
SPOKANE, Wash., Bearing & Rim Supply Company
SPRINGFIELD, Ill., Illinois Wheel & Brake Company
SPRINGFIELD, Mo.....Borbein, Young & Company
SYRACUSE, N. Y.....Colbourn Wheel & Rim Company
TACOMA, Wash.....Six Robbies, Incorporated
TOLEDO, Ohio.....Wheel & Rim Sales Company
TORONTO, Canada.....Harper Brothers, Ltd.
TORONTO, Canada, Wheel & Rim Co. of Canada, Ltd.
VANCOUVER, B. C., Canada.....Wheel & Equip., Ltd.
WICHITA, Kansas.....Borbein, Young & Company
WINCHESTER, Va.....R. W. Norris & Sons
WINNIPEG, Can., Automobile Supply Company, Ltd.
WINNIPEG, Can., Fort Garry Tire & Service, Ltd.
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FLEET OPERATORS EVERYWHERE REPORT OUTSTANDING PERFORMANCE

WITH **DAYTON** PRODUCTS

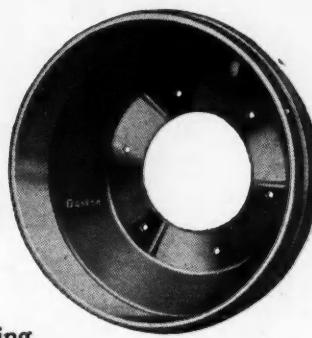
The "know how" acquired during forty-one years of producing top quality products for trucks and trailers is incorporated in every unit shipped

from The Dayton Steel Foundry. It is not surprising, but nevertheless gratifying, to have Fleet Operators speak so highly of Dayton products.



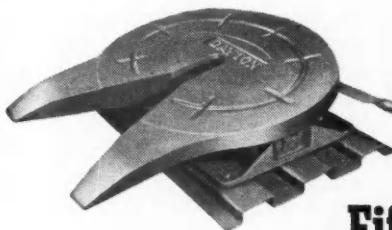
DAYTON
Spoke-Type
Cast
Steel Wheels

The fanning action of the spokes on Dayton Cast Steel Wheels causes them to run *much cooler*. The spokes create air currents and direct these currents against brake drums and inner walls of the inside tires. Dayton Wheels are so strong they never wear out in service. It costs less for service on Dayton than any other wheel.



DAYTON
Time-Proven
Brake Drums

Prolonged study of flexing stresses and "heat checks" by our metallurgical engineers, together with countless tests in actual service have resulted in the time-proven Dayton Brake Drums of today that stand up under extremely heavy duty service and keep their roundness in spite of high temperatures.



DAYTON
Improved,
Stronger
Fifth Wheels

Dayton Fifth Wheels, such as the Model FWH, have all the road-proven features so long associated with the trade mark they bear. Only one operation is necessary in the simple locking device. Oversize bushings are extra large for extra wear. Better lubrication is assured by pressure fittings on jaw pins, rocker pins and base.



Made in both hydraulic and mechanical types, Dayton Landing Gears are helping fleet operators everywhere. The Hydraulic Pump incorporates speed of operation and sufficient pressure for maximum load. Retraction of this gear is automatic and requires no effort by the operator. Dayton Landing Gears are thoroughly dependable.

THE DAYTON STEEL FOUNDRY CO.

DAYTON 1, OHIO

Dayton Steel Products are serviced by Distributor Members of The National Wheel and Rim Association.

Revised GMC PM Plan Offered Fleetmen

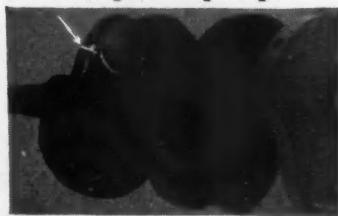
A NEW preventive maintenance program designed to help truck operators gain greater economy and efficiency in the emergency period ahead

has been announced by A. A. Shantz, general parts and service manager for the GMC Truck & Coach Division.

GMC Truck put together the new,



Fleet operators know that the trucks they own or can buy today may have to work harder and last longer than any in many years. More and more operators are therefore insisting upon Magnaflux-Magnaglo inspection during maintenance or overhaul. Detecting otherwise invisible defects in a part before it fails can prevent destruction of other parts or even the loss of entire units. Finding cracks while they are still small often allows for safe salvage of parts that are increasingly hard to get. Magnaflux-Magnaglo inspection is so reliable, fast and easy that it is routine in more shops every day!



Fluorescent Magnaglo indication, as discovered on crank throw at overhaul. Glowing line marks non-visible crack very near to final failure.



Magnaglo inspection of this steering spindle when front wheels were packed gives clear indication of otherwise invisible serious cracks that could cause failure.

FOR SAFETY . . . ECONOMY . . . LONGER LIFE
Write for complete information on how Magnaflux can keep your equipment running longer—safer.

*Magnaflux-Magnaglo® Trade Marks of Magnaflux Corporation applied to its equipment and materials for magnetic particle inspection.

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simplified system after a two-year nationwide survey of company service and retail personnel and dealer service managers to find out exactly what truck owners needed maintenancewise.

The new system has extreme flexibility in order to cover the many types of trucking operations, and has been simplified over the former PM procedure so that it ties in closely with modern equipment and trucking methods.

Whereas the previous system had five different services to cover all operations, the new program has an "A" service for gasoline-powered vehicles that have been driven either three to six weeks or 1000 to 3000 miles (depending on the type of operation), and a "B" service for trucks driven either three to six months or from 10,000 to 20,000 miles. For diesel trucks, the two services are placed in effect after somewhat longer periods of operation.

Vehicle time in the shop has been reduced by the new system although more service work is performed at each interval. This was accomplished by lengthening the service intervals in accordance with improved truck engineering.

All maintenance work done is recorded on a single sheet, which shows at a glance what past experience has been on any particular truck. This has been found to be an excellent check in locating driver deficiencies.

One of the most important benefits in the PM program is said to be accurate scheduling of maintenance work, thus avoiding the overcrowding of maintenance facilities. Other proven benefits include lower cost per mile of maintenance, reduction in road delays, better-looking, more efficient equipment, and more accurate forecasting of truck operating expenses.

For operators who have only one or two trucks, or a small fleet, and want their maintenance done by a GMC dealer, there is a new PM agreement form concerning the frequency of the work to be done by the dealer, costs and other items. Under this agreement, the dealer does the work and keeps the PM records, letting the owner know when some special work is required.





"More Ton-Miles-
More Profit!"

Go modern-



Go Hypoid!

—ON TIMKEN-DETROIT

MEDIUM- AND HEAVY-DUTY AXLES

Any good trucker knows that profits are made when his fleet is moving. A truck in the shop costs money—in lost ton-miles and maintenance expense.

That's why today you'll see more and more of America's big trucks rolling on Timken-Detroit Axles with Hypoid Gearing! In both on-highway and off-highway operation, this dependable axle

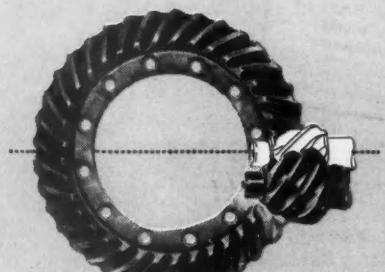
gearing has *proved* itself under all types of load and road conditions. Its simple, rugged construction provides maximum performance—at a minimum of maintenance expense.

If you build, buy or sell trucks, specify Timken-Detroit Axles and Brakes! You'll find Hypoid Gearing an important Timken-Detroit feature!

HYPOID

HEAVY-DUTY GEARING

The offset Hypoid pinion is bigger and stronger. Bearings are bigger. More teeth are in contact, reducing loading per unit of contact area. Torque-transmitting capacity is increased. Slower gear ratios are practical without loss of strength.



SEND FOR THIS INFORMATIVE ILLUSTRATED BOOKLET ON
HYPOID GEARING TODAY! IT'S YOURS FOR THE ASKING!

TIMKEN
Detroit
AXLES

A PRODUCT OF THE TIMKEN-DETROIT AXLE COMPANY

DETROIT 32, MICHIGAN



WORLD'S LARGEST MANUFACTURER OF AXLES FOR TRUCKS, BUSES AND TRAILERS
PLANTS AT: Detroit and Jackson, Mich. • Oshkosh, Wis. • Utica, N. Y.
Ashtabula, Kenton and Newark, Ohio • New Castle, Pa.

Review of Wage-Hour Law

Continued from Page 75

The exemption of an employee from the hours provisions of the FLSA under Section 13(b)(1) depends both on the class to which his employer belongs and on the class of work involved in the employee's job. The power of the ICC to establish maximum hours and qualifications of service of employees, on which exemption depends, has been held to extend to those classes of employees, and those only, who (1) are employed by carriers whose transportation of passengers or property by motor vehicle is subject to the Commission's jurisdiction under Section 204 of the Motor Carrier Act, and (2) are engaged in activities of a character directly affecting the safety of operation of motor vehicles in the transportation on public highways of passengers or property in interstate or foreign commerce within the meaning of the Motor Carrier Act.

The Commission has determined, and the U. S. Supreme Court has accepted its determination, that activities of this character are included in the kinds of work which the Commission has defined as the work of Drivers, Drivers' Helpers, Loaders, and Mechanics employed by such carriers, and that no other class of employees employed by such carriers perform duties directly affecting such "safety of operation."

The exemption is applicable, therefore, to those employees, and those only, whose work involves engagement in the activities consisting *wholly or in part* of a class of work defined by the ICC.

The Controlling Factor

IN DETERMINING whether an employee falls within such an exempt category, neither the name given to his position nor that given to the work that he does is controlling. What is controlling is the *character of activities involved in the performance of his job*.

If the bona fide duties of the job performed by the employee are in fact such as he is (or that he is likely to be) called upon in the ordinary course of his work to perform, either regularly or from time to time, safety-affecting activities of the character described above, he comes within the exemption in all workweeks when he is employed at such jobs. This is true regardless of the proportion of his time or of his

activities devoted to such safety-affecting work during his employment in the particular job, and even though, in particular workweeks, he may not actually engage in any activities directly affecting "safety of operation."

ICC's Work Definitions

BECAUSE full compliance with the FLSA is almost impossible without a thorough understanding of affected job classifications, the following definitions should be studied carefully.

DRIVER—A "driver," as defined by the ICC, is an individual who drives a motor vehicle in transportation which is, within the meaning of the Motor Carrier Act, in interstate or foreign commerce. This definition does not require that the individual be engaged in such work at all times; the Commiss-

AAA Certifies

Use of Miracle Power

57

Miracle Power

Graphite Detergent Lubricant Supreme
PUTS THE "PURR-E-R" IN ENGINE PERFORMANCE

Every 1000 miles
use 10 quarts of oil

TREATS THE ENGINE—
NOT THE OIL!

Graphite Film Protects Metal

Bare Metal Scratches

tion has recognized that even full-duty drivers devote some of their working time to activities other than such driving.

The work of an employee who is a full-duty or partial duty "driver," as the term has been defined by the Commission, directly affects "safety of operation" within the meaning of Section 204. In accordance with principles previously stated, such drivers to whom this regulatory power extends are, accordingly, employees exempted from the overtime requirements of the FLSA by Section 13(b) (1).

This does not mean that an employee of a carrier who drives a motor vehicle is exempted as a "driver" by virtue of that fact alone. He is not exempt if his job never involves transportation in interstate or foreign commerce within the meaning of the Motor Carrier Act, or if he is employed by a private carrier and the only such transportation called for by his job is not transportation of property.

It has been held that so-called "hostlers" who "spot" trucks and trailers at a terminal dock for loading and unloading are not exempt as drivers

merely because as an incident of such duties they drive the trucks and tractors in and about the premises of the trucking terminal.

DRIVER'S HELPER—A driver's "helper," as defined by the ICC, is an employee, other than a driver, who is required to ride on a motor vehicle when it is being operated in interstate or foreign commerce within the meaning of the Motor Carrier Act.

The Commission has classified all such employees (including armed guards on armored trucks and conductresses on buses) as "helpers," with respect to whom it has power to establish qualifications and maximum hours of service because of their engagement in some or all of the following activities; which, in the Commission's opinion, directly affect the safety of operation of such motor vehicles in interstate or foreign commerce:

Assist in loading the vehicle; dismount when the vehicle approaches a railroad crossing and flag the driver across the tracks, and perform a similar duty when the vehicle is being turned around on a busy highway or when it is entering or emerging from a driveway; in case of breakdown; (1) place the flags, flares, and fusees as required by the safety regulations, (2) go for assistance while the driver protects the vehicle on the highway, or vice versa, or (3) assist the driver in changing tires or making minor repairs; and assist in putting on or removing chains.

In accordance with principles previously stated, Section 13(b) (1) exemption applies to employees who are engaged in such activities as either full or partial-duty.

LOADER—A "loader," as defined by the ICC, is an employee whose duties include, among other things, the proper loading of his employer's motor vehicles so that they may be safely operated on highways. A loader may be called by another name, such as a "dockman," "stacker," or "helper".

(TURN TO NEXT PAGE, PLEASE)



"You and your truck! Wouldn't it have been simpler to use a ladder?"

le Power in 500 Mile Race

Miracle Power's objective for the 1951 Indianapolis race was to get certification by the American Automobile Association that the same Miracle Power you use could be successfully used in this punishing race. And here's the record! Under AAA supervision, Miracle Power purchased in the open market was used in Andy Linden's car . . . helped him to finish fourth . . . at a speed faster than the previous record. Linden, whose only pit stop was for fuel and tires, burned less than a quart of oil instead of the normal two to three gallons. In a race in which mechanical trouble was the principal reason why twenty-five of thirty-three starters failed to finish, Linden's performance is a remarkable tribute to Miracle Power.

Use Miracle Power—Ask your jobber salesman or write

QP
THE **MIRACLE POWER** DIVISION
PARTS CORPORATION • **TOLEDO 1, OHIO**
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf-123



Wage-Hour Law

Continued from Page 135

His duties will usually also include unloading and the transfer of freight between the vehicles and the warehouse. But he engages, as a "loader" in work directly affecting "safety of operation" so long as he has responsibility, when such motor vehicles are being loaded, for exercising judgment

and discretion in planning and building a balanced load; or in placing, distributing, or securing the pieces of freight in such a manner that the safety operation of the vehicles on the highways in interstate or foreign commerce will not be jeopardized.

Section 13(b) (1) exemption applies, in accordance with principles previously stated, to an employee whose job involves these activities wholly or in part; or immediately directing, a class of work thus defined by the Commission.

MECHANIC—A "mechanic," as defined by the ICC, is an employee whose duty it is to keep motor vehicles operated in interstate or foreign commerce in a good and safe working condition.

The Commission has determined that the safety of operation of such motor vehicles on the highways is directly affected by those activities of mechanics, such as keeping the lights and brakes in a good and safe working condition; which prevents the vehicles from becoming potential hazards to highway safety and, thus, aids in the prevention of accidents.

The following activities performed by mechanics on motor vehicles illustrate the specific kinds of activities which the courts, in applying the foregoing principles, have regarded as directly affecting "safety of operation":

Inspection, repair, adjustment, and maintenance for safe operation of steering apparatus, lights, brakes, horns, windshield wipers, wheels and axles, bushings, transmissions, differentials, motors, starters and ignition, carburetors, fifth wheels, springs and spring hangers, frames, and gasoline tanks.

Inspecting and checking air pressure in tires, changing tires, and repairing and rebuilding tires for immediate replacements on the vehicles from which they were removed also have been held to affect safety of operation directly. The same is true of hooking up tractors and trailers, including light and brake connections, and the inspection of such hookups.

The Section 13(b) (1) exemption applies, in accordance with principles previously stated, to an employee whose job involves activities consisting wholly or in part doing, or immediately directing, this class of work.

A supervisory employee who plans and immediately directs and checks the proper performance of this class of work may come within the exemption as a partial-duty mechanic.

(TURN TO PAGE 140, PLEASE)



Compare QUALITY

The same standards of excellence as in Neapco Universal Joints—correct design, accurate machining, quality materials—PLUS an unequivocal guarantee.

Compare INTERCHANGEABILITY

All parts FIT... they look like and interchange with originals. Controlled accuracy in manufacturing assures this—makes Neapco easy to sell, easy to install.

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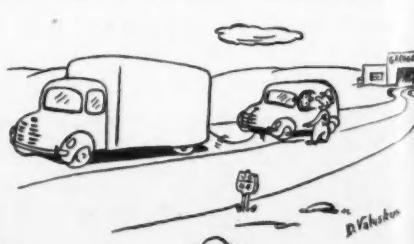
Wheel Suspension Parts, Tie Rods, Tie Rod Ends, Drag Links, King Bolt Sets, Coil Springs, Chassis Parts Accessories—all in a full range of sizes, intelligently catalogued and uniformly packaged.

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for low-cost long mileage!



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Delivery*

*Truc Trac
Highway*

*Commercial
Heavy Tread*

*Dual Trac
Special Service*

*Lug Trac
Special Service*



Wage-Hour Law

Continued from Page 136

An employee of a motor vehicle carrier is not exempted as a "mechanic" from the overtime provisions of the FLSA under Section 13(b) (1) merely because he works in the carrier's garage, or because he is called a "mechanic," or because he is a mechanic by trade and does mechanical work.

Employees whose work is confined to such "nonsafety" activities are not within the exemption, even though the proper performance of their work may have an indirect effect on the safety of operation of the motor vehicles on the highways.

The same has been held true of employees whose activities are confined to construction work, manufacture or rebuilding of truck, bus, or trailer bodies, repair of refrigeration equipment on the vehicles, and other duties which are concerned with the safe carriage of the contents of the vehicle

rather than directly with the safety of operation on the public highways of the motor vehicle itself.

As explained, Section 13(b) (1) of the FLSA does not exempt an employee of a carrier from the Act's overtime provisions unless it appears, among other things, that his activities as a driver, driver's helper, loader, or mechanic directly affect the safety of operation of motor vehicles in transportation in interstate or foreign commerce within the meaning of the Motor Carrier Act.

For other types of employees of fleet operators other requirements are provided for exemption. For example, the new regulations contain "tests" of duties, responsibilities, salary levels, and other basic requirements which employers must apply in determining which of their employees may be exempt from the wage-and-hour provisions of the FLSA. The following is an illustration:

Executive Employee

- a. One whose primary duty consists of the management of the enterprise in which he is employed or of a customarily recognized department or subdivision thereof; and
- b. Who customarily and regularly directs the work of two or more other employees therein; and
- c. Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight; and
- d. Who customarily and regularly exercises discretionary powers; and

(TURN TO PAGE 142, PLEASE)



A special 22 cubic yard capacity Marion Body with Telescopic Hoists—installed on a tandem semi-trailer.

Hydraulic Hoists

Hydraulic Hoists—Through sound engineering and skillful use of high quality materials, Marion has produced a variety of standard and special hoists for efficient dumping service. Marion's extra attention to detail pays off "on the job" in dependable, economical . . . more profitable operation.

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Dump Bodies—Marion bodies are designed with built-in endurance to withstand the hard knocks of heavy haulage duty. Marion's stronger, all-welded construction means longer body life, less maintenance cost . . . real over the years dependability.

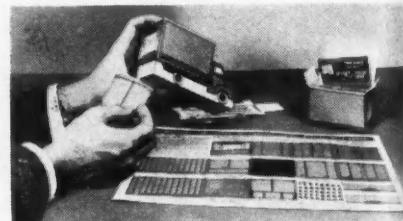
Your near-by Marion distributor can furnish genuine Marion parts and factory "know-how" for your service and repair needs. It pays to deal with an authorized Marion distributor.

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Standard and Special Hoists and Dump Bodies for Light, Medium, and Heavy-Duty Service

Build Your Own Body



It is now possible for a man to design and order his own truck body and still get a mass production job. This seemingly contradictory feat can be achieved with a model kit which the Fruehauf Trailer Company supplies to prospective truck body buyers. Although these are real production line bodies there are over 500 options which the buyer can exercise to make the body fit the needs of the particular business in which it is going to be employed. The model kit enables the prospective purchaser to assemble his own model in cardboard for the purpose of studying the advantages of each set of options he is considering. When the model is assembled it provides a replica of the body desired.

6

MORE TONS

3

TIMES THE SPEED

For the Sugar Cane Train



GENUINE

Budd

COLD TAPERED DISC

WHEEL

That's what the U. S. Sugar Corporation, Clewiston, Florida, has realized since switching over to 9.00 x 16 implement tires on 16 x 6.50 Budd dual disc wheels on the cane carts and 21.00 x 25 special 10 ply road grader tires on 17.00 x 25 Budd double disc wheels on their Caterpillar tractors.

The outstanding economy of this operation was achieved through the changeover to Budd wheels with wide base rims and tapered bead seat. J. B. Boy of the U. S. Sugar Corporation, E. C. Mills, Shop Superintendent, and W. A. Birt, of Southeast Wheel and Rim Company, Budd distributors, worked out the specifications.

U. S. Sugar reports their operating costs have gone down approximately 35% and maintenance costs have decreased about 50%.

If you would like expert advice on your tire and wheel problems, call your distributor at the left. It won't cost you a cent.

Available in both standard
and lightweight construction.

Wage-Hour Law

Continued from Page 142

his employer's customers, which include work requiring the exercise of discretion and independent judgment shall be deemed to meet all of the requirements of this section.

Thus, it can be clearly seen that certain employees of fleet operators may qualify for exemption if they meet all of the foregoing tests. However, the primary purpose of the exclusionary

language placing a limitation on the amount of non-exempt work is to distinguish between the bona fide executive and the "working" foreman or "working" supervisor who regularly performs production or other work which is unrelated, or only remotely related, to his supervisory job.

Recordkeeping Requirements

FLEET operators are required to keep accurate and adequate records of wages, hours and working conditions on all employees regardless of status.



for critical jobs

where proper tightness counts

Running nuts to correct tightness on cylinder heads, main bearings, or connecting rod bearings are critical jobs. Yet such jobs can readily be handled with a CP-750 AIR IMPACT WRENCH, whose controllable power makes it easy to run nuts to any predetermined tightness.

Built for one-hand operation, the CP-750 is designed for running nuts, bolts and cap screws up to $\frac{5}{8}$ " bolt size.

Two other sizes are available: the CP-730 Wrench, capacity to $\frac{1}{2}$ " bolt size; the CP-770 to 1" bolt size. All three wrenches are furnished with detachable angle heads for awkward-spot jobs.

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AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

The following check-list reflects the official records that should be kept for inspectional purposes.

Employees exempt under Section 13 as executive or administrative:

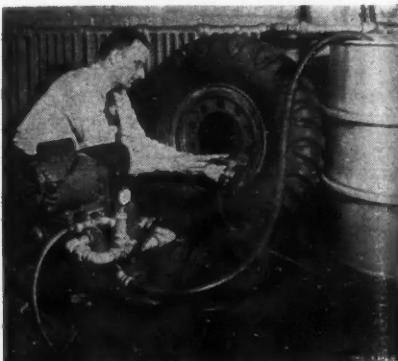
1. Name in full
2. Home address
3. Date of birth, if under 19
4. Occupation in which employed
5. Time of day and name of the day on which the employee's work week begins
6. Basis on which wages are paid
7. Total wages paid each pay period
8. Date of payment and pay period covered by payment

Employees subject to the Minimum-Wage and Maximum-Hours Provisions:

1. Name in full
2. Home address
3. Date of birth, if under 19
4. Occupation in which employed
5. Time of day and name of the day on which the employee's work week begins
6. Regular hourly rate of pay; basis on which wages are paid
7. Hours worked each workday and total hours worked each workweek
8. Total daily or weekly straight-time earnings or wages
9. Total weekly overtime excess compensation
10. Total additions to, or deductions from, wages paid each pay period
11. Total wages paid each pay period
12. Date of payment and date of pay-period covered by payment.

Employees under certain Union Agreements, made as a result of
(TURN TO PAGE 148, PLEASE)

Water-Filled Tires



Substantial increases in tire life and lowered operating costs for tires used in underground mining and run at low speeds (less than 5 m.p.h.) may be accomplished through substitution of 100 per cent water filling for the conventional air pressure method, tests completed recently by Goodyear Tire & Rubber Co. show. The tests were conducted over a period of two years, being made with tires used on various types of underground mining equipment believed representative of these operations.

WATER FROM OIL!

Exclusive Laminar Material Provides Extra Protection Against "Crankcase Moisture"
... Minimizes Corrosive Acid Wear and Sludge Formations



The basic filtering material used in the Walker Oil Filter Cartridge is pure wood cellulose fibre. In addition to removing dirt, dust, metal particles and other abrasives through its normal "3-way filtration," these fibres have two additional characteristics which provide *extra protection* against "crankcase moisture." (1) They will selectively remove water from oil. (2) They have the capacity of holding 16 times their own weight of water. (The average size can absorb a full quart.)

Because of this water absorption, the Walker Oil Filter renders an *extra service* in the control of "crankcase moisture"—the most dangerous contaminant of oil.

It reduces "acid corrosion" to a minimum by absorbing the acids contained in the water it removes from the oil. It actually functions to prevent the formation of sludge by keeping the moisture content of the oil below the "sludge danger zone"—and it helps to preserve the detergency of heavy-duty oils.

WATER STARTS ACIDS—the major cause of engine wear. Highly acidic "blow-by" fumes condense in the presence of water, form dangerous corrosive acids which are carried in the water contamination of the oil stream to all parts of the engine.

Here is an oil filter that does more than just filter. It recognizes the "triple-threat" of "blow-by" contamination. It attacks the cause of acid corrosion and sludge formation—water in the oil. Certainly change oil regularly—but equally important, keep oil clean between changes by giving your engines complete protection against *all* of the dangerous oil contaminants, including water!

WALKER OIL FILTERS

WITH PATENTED *Laminar* CONSTRUCTION



Wage-Hour Law

Continued from Page 144

collective bargaining by representatives of employees certified as bona fide by the National Labor Relations Board, as provided in Section 7(b)(1) or 7(b)(2).

1. Name in full
2. Home address
3. Date of birth, if under 19
4. Occupation in which employed

5. Time of day and name of the day on which the employee's workweek begins

6. Regular hourly rate of pay, and basis on which wages are paid

7. Hours worked each workday, and total hours worked each workweek

8. Total daily or weekly straight-time earnings or wages

9. Daily and weekly overtime excess compensation

10. Total additions to, or deductions from, wages paid each pay period

11. Total wages paid each pay period.

12. Date of payment and the pay period covered by payment

13. Copy of union contract, amendment or addition thereto.

Fleet operators should fully understand that the FLSA amended does not otherwise limit the number of hours in which their employees may work, if they are specifically exempted, or if they are paid overtime after 40 hours in the workweek.

Stiff Penalties for Violations

SECTION 11 provides that Wage-Hour Inspectors may "quiz" employees, check payroll records, time-cards and dig up old records to ascertain a compliance status. In fact, Section 16 provides for harsh penalties: \$10,000 fine, 6 months imprisonment, or both, for violations thereof.

In regard to records, fleet operators must understand that no particular order or form of records is prescribed. However, accurate and complete records must be evident, and they must contain the information Wage-Hour Inspectors demand. Records should be available within 72 hours upon request. Consequently, the responsibility for making and keeping adequate and accurate records rest four-squarely upon fleet operators (employers).

Since a Wage-Hour Inspector's first contact with fleet operators is through an examination of the records, it behooves fleet operators to have them all. Are you paying your employee earned or unearned overtime? Are certain employees exempted? Can you prove it by your records?

Valuable knowledge concerning the basic requirements of the different rules and regulations are presented herein. Fleet operators can save themselves considerable time, worry and money by clinging to the basic provisions. The question who-what employees are exempted depends, of course, upon meeting the foregoing requirements. However, this article was drafted to provide fleet operators with

(TURN TO PAGE 150, PLEASE)

How To "Keep An Eye" On Your Truck Even When It's Out of Your Sight!



Send for our helpful illustrated booklet — "Ten Ways of Getting More Work Out of Motor Trucks." It's free.

Ask the modern efficient truck manager and he will reply right away: "Sure—the answer to that is easy. First thing every morning we put a blank chart in the little Servis Recorder up in the cab of the truck. The next morning when that chart is laid on my desk, I can see right away everything the truck did the day before—busy time, idle time, overtime, everything. The truck wrote its own record."

That's the answer that well over a hundred thousand satisfied truck operators now give, as they look over the previous day's performance shown on their Servis Recorder charts.

And it is the answer that will so thoroughly satisfy YOU if you too will equip your trucks with SERVIS RECORDERS—and thereby get better truck performance. Chances are you'll also add—"Don't see how we ever got along without 'em!"

THE SERVICE RECORDER COMPANY
1375 Euclid Avenue • Cleveland 15, Ohio



"I'll have to drive all night, boss,
I ran into something."

"ENGINEERED FOR
HEAVY DUTY SERVICE"

ONLY VELVETOUCH ALL-METAL CLUTCH PLATES
GIVE YOU ALL THESE

Features

1. **ADDED MILEAGE.** Velvetauch lasts longer, requires fewer adjustments.
2. **EXTRA SAFETY.** Metal construction insures uniform friction . . . is little affected by extreme operating conditions.
3. **HEAVY DUTY HUB.** Forged steel hub and spring steel plate cut expensive tear-outs.
4. **EASY INSTALLATION.** Precision machined to speed installation.
5. **LOW COST.** Measured in added mileage, Velvetauch costs less.
6. **NOT AFFECTED BY OIL OR GREASE.** Unlike asbestos, oil and grease can't harm Velvetauch.
7. **HEAVY DUTY BUILT.** Friction is fused with solid steel backing.
8. **RUNS COOLER.** Asbestos won't conduct heat, but Velvetauch carries it away to protect opposing plate.



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New, Fast, Positive Fire Killer...



WHEELED PORTABLE FIRE EXTINGUISHER

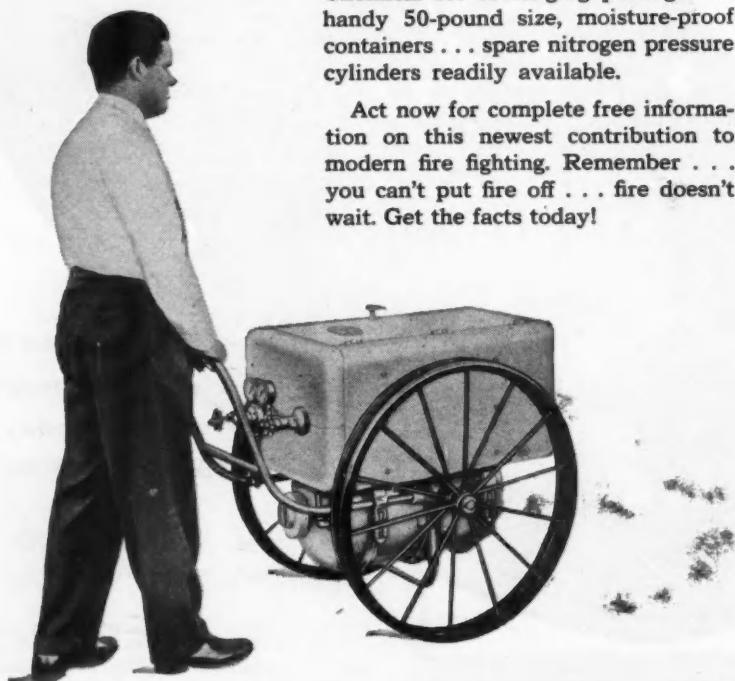
Experienced engineering develops new, highly efficient 150-pound capacity dry chemical type wheeled portable fire extinguisher . . . has exclusive design that assures you of lasting, foolproof fire protection.

This new fire killer is easy to operate, compact, well-balanced and offers extensive maneuverability indoors or outdoors. Does a highly effective job on flammable liquid, gas and electrical fires, as well as surface fires involving ordinary combustible materials . . . granted unconditional B, C rating by the Underwriters' Laboratories, Inc.

Exclusive design renders constant free-flowing dry chemical . . . fire extinguisher is partially inverted for wheeling, then fully inverted at fire scene, which changes the position of the dry chemical in the tank and thereby provides mechanical breakage. This outstanding mechanical breakage feature, plus a continuous nitrogen pressured agitation or fluffing, together with a skillfully blended free-flowing dry chemical, guarantees a faster, more effective and complete discharge.

Rechargeable on-the-scene . . . no special tools needed . . . C-O-TWO Dry Chemical for recharging packaged in handy 50-pound size, moisture-proof containers . . . spare nitrogen pressure cylinders readily available.

Act now for complete free information on this newest contribution to modern fire fighting. Remember . . . you can't put fire off . . . fire doesn't wait. Get the facts today!



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Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

Wage-Hour Law

Continued from Page 148

the salient features of the FLSA amended.

To control the situation of possible costly violations, fleet operators should make a comprehensive survey of their operations under the FLSA by (1) qualifying employees for exemption, (2) keeping accurate and adequate records prescribed, and, (3) checking to see if non-exempted employees are paid overtime after 40 hours, according to the regulations.

In other words, the role, the Wage-Hour Inspector will be playing is likely to be of increasing concern to fleet operators as the current mobilization program proceeds; because they will be making more investigations to ascertain compliance with both the FLSA and the Wage Stabilization Program.

Because labor cost is important to fleet operators, they will find, by clinging to the basic requirements, they should be able to control labor cost more readily when such provisions are met. This involves, of course, an integrated organized checking on a periodic basis plus analysis of the records. With fleet operator's increasing recognition of these factors they should be able to understand the effects of the Amended Fair Labor Standards Act, 1949.

END

Please Resume Reading Page 76

Highway Research Recommended

The New Jersey Society of Professional Engineers has recommended that there is a need for more thorough research in the actual damage done to highways by truck usage, and to determine the constructional means of circumventing it. The report was made after the New Jersey association had made a preliminary study of road conditions under request by the office of the State Highway Commissioner.

The committee also recommended that funds received from automotive taxes be directed to road construction and maintenance "in order to provide adequate highway facilities."

In commenting on the recent tests made in Maryland by the Interregional Council on Highway Transportation, the New Jersey engineers declared that the final reports should be studied in detail with an open mind, but with the realization that the road tests in Maryland: "Was not conclusive, except to demonstrate the necessity for additional tests and research."

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and PEACE-TIME
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Wheels, brakes, hubs and drums for cars, trucks, tractors . . . and cargo trailers, troop carriers, gun carriages, tanks, etc. Electric brakes, brake power equipment, power chambers . . . and valves for all types of military and civilian vehicles. Shells and shell casings, rockets, and aircraft engine parts, etc.

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Los Angeles, Cal. Plant



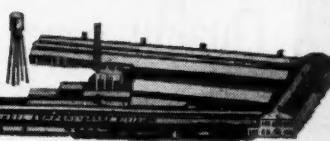
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KELSEY-HAYES WHEEL COMPANY
MILITARY AVE., DETROIT 32, MICHIGAN

Fuel Tests Gain 15-20% Mpg

Continued from Page 54

verted this weight into miles per gal as follows:

$$\text{MPG} = \frac{\text{Miles}}{\text{Operated} \times \text{Specific Gravity of Fuel in Lb}} \times \text{Lb of Fuel Used}$$

For example, if 11 lb and 14 oz of fuel were consumed in 4.8 miles, and

gasoline at the time of the test weighed 6.05 lb per gal, then the miles per gal would be 2.45, as:

$$\text{MPG} = \frac{4.8 \times 6.05}{11.875} = 2.45$$

We were convinced that the procedure was satisfactory when duplicate runs over the test course came within 5/100ths mpg.

Performance Changes Measured

BEING assured that our test procedure was sound we were now able to determine the effect of various changes on miles per gallon and performance.

Using the same vehicle throughout all of our tests, we varied only one thing at a time and then measured the effect that this change had upon performance and gas consumption.

First, we tackled increase in compression ratio. All the literature we read covering increased compression ratios indicated that this was one of the best ways of boosting engine efficiency and reducing fuel consumption.

Our existing compression ratio was 5.65 to 1. By planing the cylinder heads, we increased the compression ratio to 6.5 to 1, the maximum allowable with our standard fuel of 76 octane (Motor Method).

Tests were run holding everything constant except compression ratio. To our surprise, gasoline consumption over the test course was greater with the higher ratio than with standard ratio. This was in direct conflict with everything we had read concerning increased compression ratio.

A further analysis of these tests soon brought out the reason for this upset. Vehicle performance had increased considerably with the 6.5 to 1 compression ratio, and even though the engine efficiency had been increased, the fuel savings which normally would have resulted was more than offset by the increased fuel used at wide open throttle because of the higher rate of acceleration.

We knew now that performance must be held constant along with all other variables, if we were to be able to determine accurately the effect of any given change on fuel consumption.

To make a long story short, we found that by bringing vehicle performance in line with schedule speeds commensurate with traffic regulations and the movement of other vehicular traffic over our bus routes, and by increasing engine efficiency through increased compression ratios and making necessary changes in carburetion and gear ratios, we were able to obtain a 15 to 20 per cent increase in the average miles per gallon of our buses.

It is necessary to state the fuel mileage gain in a general per cent range, as above, because, at this writing, our fleet has not yet been completely changed over. However, because our figures are based on a group of test buses operating in duplicate service, we believe it will be representative.

(TURN TO PAGE 154, PLEASE)

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Quantity TUNG-SOL production assures delivery of manufacturers' lamp requirements on schedule.

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From Trucks to Taxicabs

Fleets depend on FRAM



Fram cuts truck operating costs. "My fleet is equipped with Fram Oil & Motor Cleaners. These filters provide cleaner motors and lower operating costs. Easy installation saves money in man-hours." —Trucking Company, Corpus Christi, Texas.



Fram reduces costs for dairy fleet. "Have used Fram Oil & Motor Cleaners for many years. They have been a big factor in keeping fleet maintenance costs low. Fram gives fleet operators a great economy benefit." —Dairy Fleet, Portland, Ore.



Transit company benefits from Fram. "Our Southern Coach buses are equipped with Fram Oil & Motor Cleaners. Also have Fram equipment on our taxi fleet. Results have been fine!" —Transit Company, Wichita Falls, Texas.



Complete engine protection saves taxis. "Fram Complete Engine Protection helped me establish a real preventive maintenance program for my taxi fleet. I recommend Fram without qualification to any fleet operator who is interested in maintaining his equipment at highest operating efficiency at lowest cost." —Taxicab Company, Sheboygan, Wis.

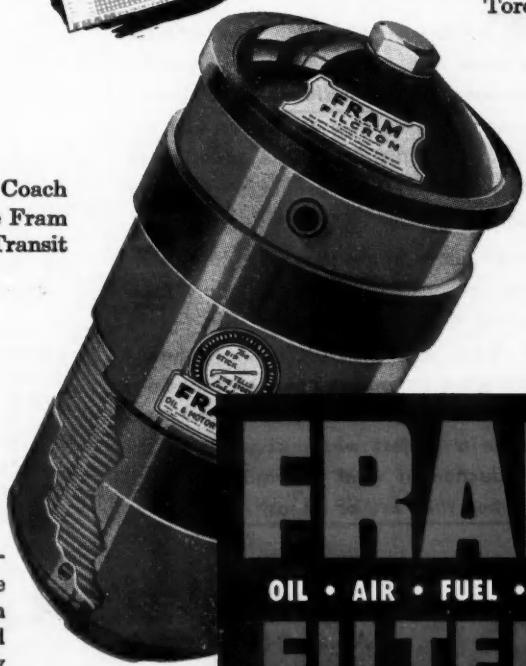
**FRAM guards engines...
lengthens service... cuts
repairs... saves money...**

Fleet Operators everywhere are sold on the time-and-money-saving advantages of Fram-protected engines! Only Fram offers you Complete Engine Protection . . . Oil & Motor Cleaners, Carburetor Air Filters, Fuel Filters and Positive Crankcase Ventilators — that completely protect car, truck and bus engines against harmful abrasives and internally-formed contaminants. And the new Fram Radiator & Water Cleaner keeps cooling systems *clean*—reduces danger of overheating!

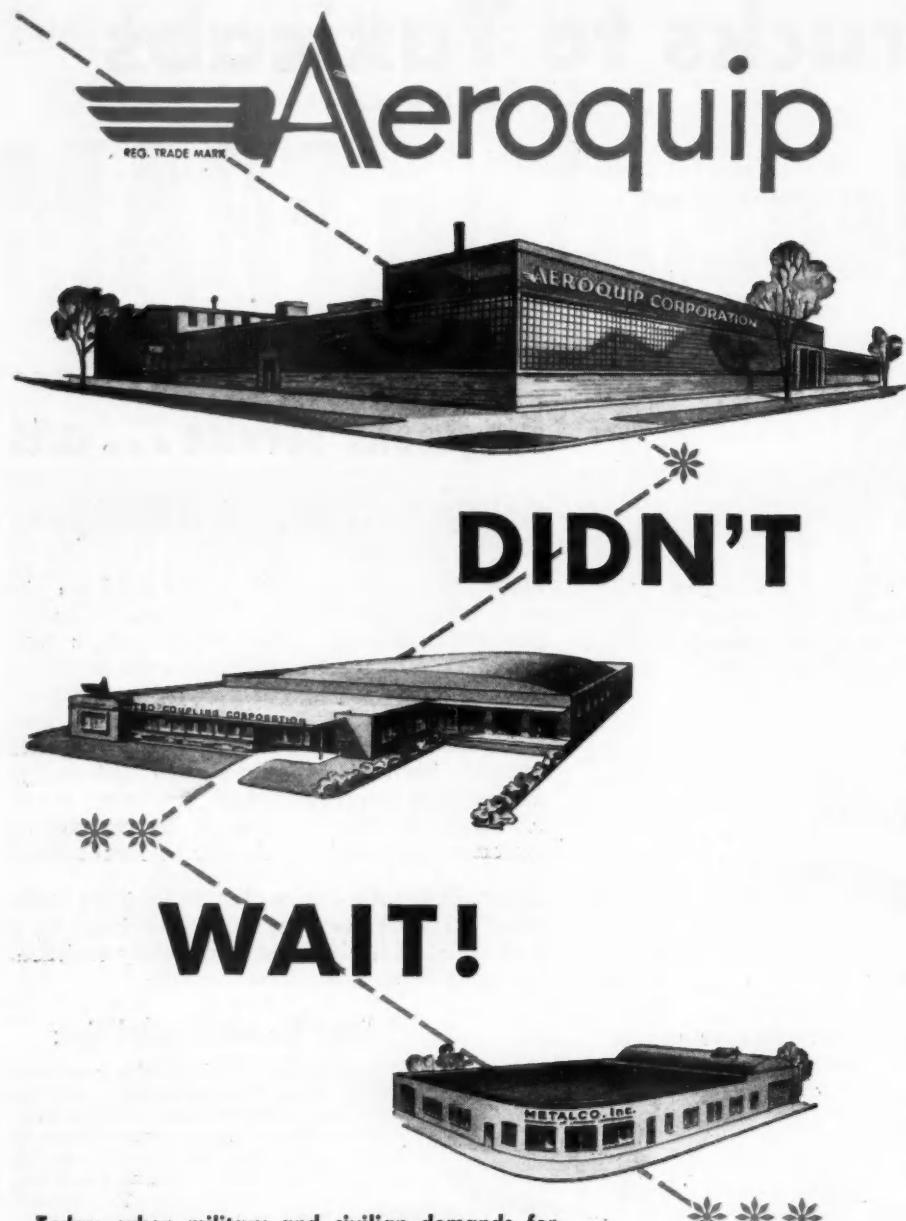
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Provides instant visual check on condition of oil, filter cartridge, and engine. Indicates cartridge changes only when needed. Saves money. Write to **FRAM CORPORATION**, Providence 16, R.I. In Canada: J.C. Adams Co., Ltd., Toronto, Ontario.



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OIL • AIR • FUEL • WATER
FILTERS



Today, when military and civilian demands for its products have doubled all previous records, Aeroquip announces the completion of a sizable expansion program. Two new structures and the acquisition of a new subsidiary have added more than 100,000 sq. ft. of highly productive space to Aeroquip's plant facilities.

It is not through mere chance that these important new additions are in operation today. More than a year ago the first warning signs that led to rearmament were recognized. Then, Aeroquip didn't wait for government prodding or financing, but with private capital and typical American initiative began a project which assures greatly increased production of vital Aeroquip products TODAY . . . when they are of utmost importance.

* In Jackson, Michigan, there is a new 65,000 sq. ft. addition to the Aeroquip main plant.

** In Burbank, California, this modern 30,000 sq. ft. plant has just been completed.

*** Metalco, Inc., a new Aeroquip subsidiary, operates this plant in Cheboygan, Michigan.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE

Fuel Tests

Continued from Page 152

Buses with our standard setup averaged 2.41 mpg, compared with 2.99 mpg for those changed over. This actually represents a 24 per cent gain. However, on a fleetwide basis, month by month and year by year, and embracing all possible operating conditions, the ultimate average may run somewhere within the quoted range. For example, with 220 vehicles of 339 changed over, our fleet average for March (this is being written early in April) was 2.82 mpg. It compares with 2.40 mpg for March, 1949, when all our buses were original standards.

Based on our present annual bus mileage of approximately 10 million miles, and present fuel cost, including taxes, this increase will amount to an annual saving of between \$130,000 and \$150,000.

The next question was how to reduce vehicle performance to 13.4 mph schedule speed requirement.

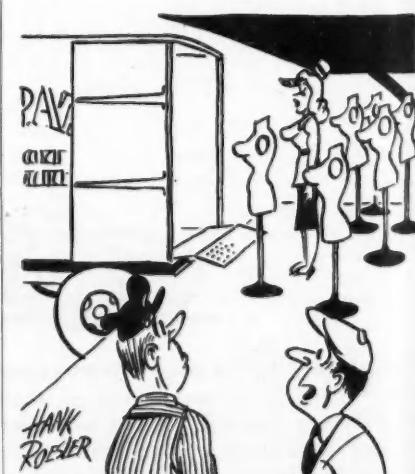
After considerable experimenting with carburetion, we found that this could be accomplished by reducing the size of the carburetor venturis and recalibrating carburetor jetting to give correct air-fuel ratios with the smaller venturis.

In other words, the additional performance which we added to the vehicle by increasing compression ratio, was taken out in fuel savings through carburetor changes.

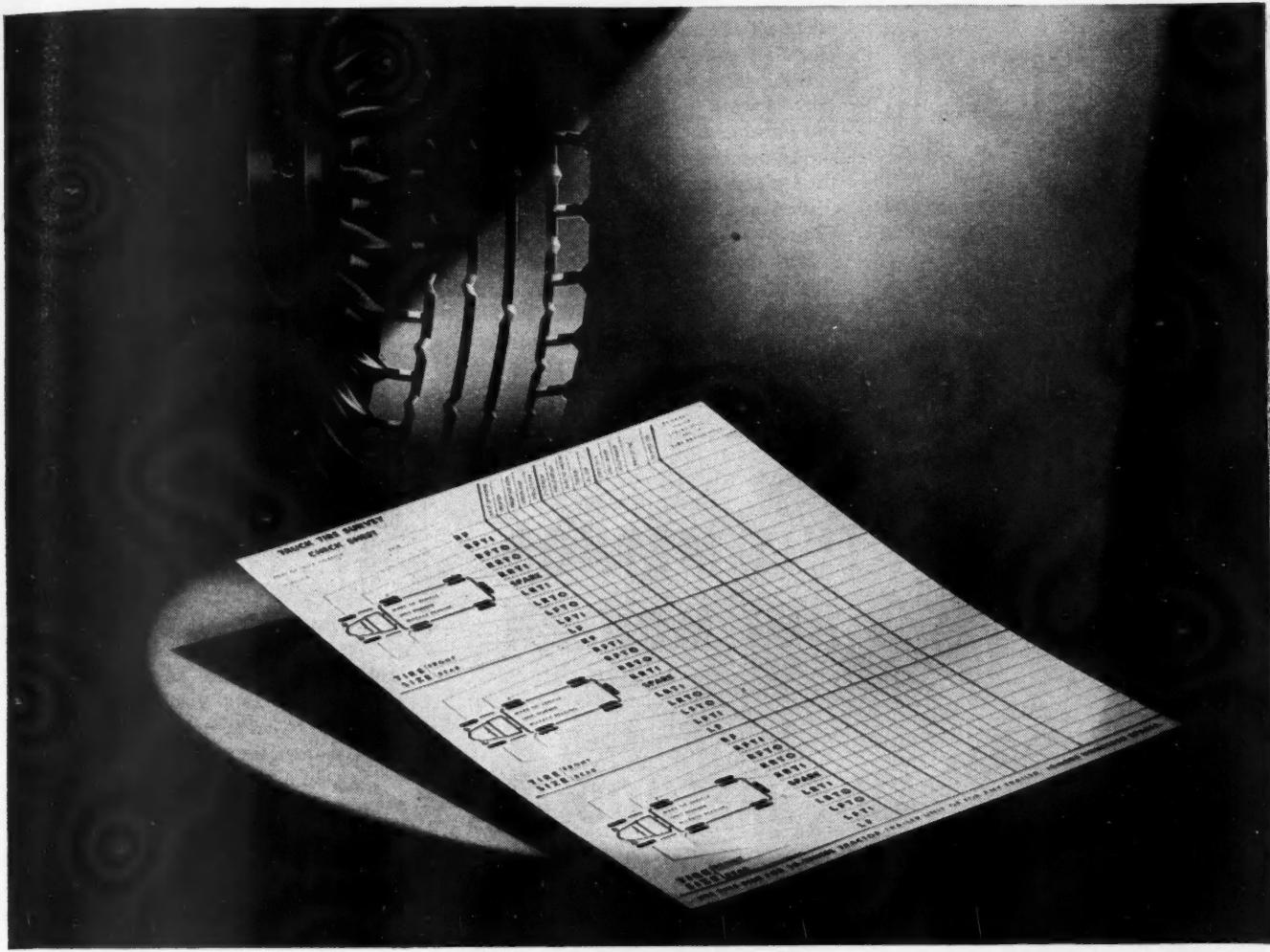
Changed Gear Ratios

HAVING done all we felt was possible with compression ratios, we next tackled gear ratios. Here we had

(TURN TO PAGE 156, PLEASE)



"There's that dame again . . . trying to sneak a ride!"



We turn on the searchlight ...you save the money!

You realize immense savings from this FREE tire analysis and report

1. Your U. S. Royal Dealer studies the tires on every piece of equipment you operate.
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... from this expert, professional tire service! U.S. ROYAL FLEET SERVICE now gives you this complete control.

1. The right tire for the job—type, size and capacity.
2. Correct inflation pressures established for your vehicles.
3. Rim examination and correction on every wheel.
4. Duals measured and precisely matched.
5. Irregular wear spotted and corrected.
6. Tires pulled for repair or recap, where necessary!
7. Maximum speed and load distributions recommended!

Utmost Quality in All Replacement Material As You Need It

A phone call does it! Your nearest U. S. Royal Distributor is listed in the Classified Telephone Book.

U.S. ROYAL

FLEET SERVICE



Fuel Tests

Continued from Page 154

similar experience of increasing and decreasing performance by changing rear axle ratios.

As a result of this experimenting, we found that by using a 6.67 to 1 rear axle ratio instead of the standard 5.52 to 1, our transmissions could be locked in direct drive without any appreciable

effect on the fuel economy or performance.

Once the operator shifts the vehicle into forward position, when he leaves the parking lot in the morning, he nor the transmission does any more shifting throughout the day; unless he changes direction of the vehicle from forward to reverse.

Perhaps it should have been explained that these vehicles were equipped with hydraulic transmissions. Most hydraulic transmissions start in hydraulic converter drive and shift from converter to mechanical drive (clutch) when a cer-

tain road speed is attained. In these buses, the sequence was to start in hydraulic converter drive and low gear in the transmission gear box and stay in converter but shift to high gear, or direct drive (1 to 1 ratio), in the gear box.

This shifting of gears in the transmission gear box from low to direct was the operation that cost us money. However, until we changed rear axle ratios, we were unable to do away with low gear in the gear box because of loss in performance and fuel economy.

The new axle ratio also made it possible to eliminate the use of a major portion of the gears, governors, switches, blocker rings, etc., which had been accounting for most of our automatic transmission troubles and the bulk of transmission maintenance cost.

Maintenance Cost Cut \$20,000

THE annual savings in transmission maintenance cost alone resulting from these changes is approximately \$20,000. The total cost of making this change-over is estimated at \$17,000. In other words, the expense involved can be written off from the savings the first year.

Likewise, the effect of numerous other factors, such as governor settings, manifold temperature, air-fuel ratios, etc., on fuel consumption was investigated and indicated changes were made.

END

Please Resume Reading Page 56

Staff Member Added

Jess N. Rosenberg, former attorney for the Atomic Energy Commission, Los Alamos, New Mex., has joined the staff of the Western Highway Institute, San Francisco, Calif., it was announced by R. J. Acheson, Seattle, Wash., chairman of the WHI Board of Directors.

Mr. Rosenberg will serve in his new post as General Counsel, and as a specialist in research on motor vehicle taxation problems. Mr. Rosenberg will make his headquarters in San Francisco. The institute is a research and fact finding association sponsored by firms of the trucking industry in the 11 Western states and Alaska, the Western Conference of Teamsters, and manufacturers of motor carrier equipment.

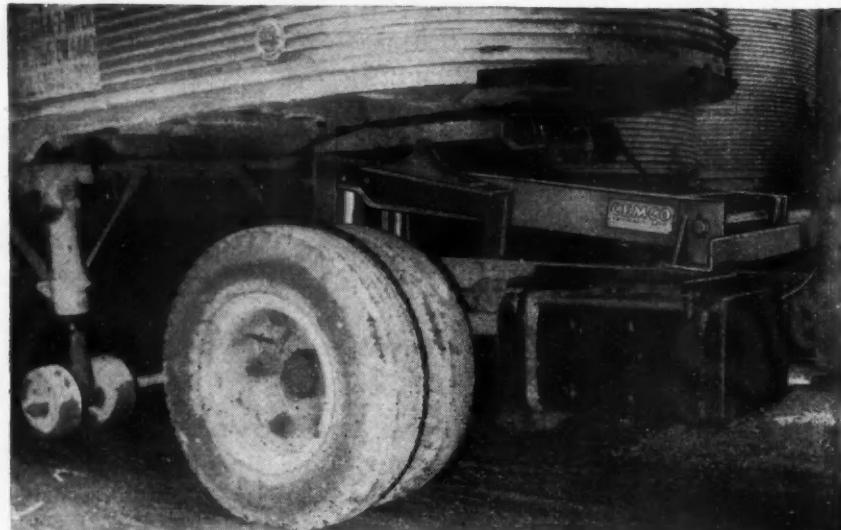
2-WAY STRETCH

The lady motorist drove into the garage to have a flat fixed. While her tire was being repaired, the lady got out of her car and walked over to the soft drink vendor to get a cold drink. When she came back, the repairman motioned behind her and said: "Your rear bumper is a little loose, ma'am." Lady: "Oh, yes, it probably is, but it's too darn hot to wear a girdle."



THIS METHOD
IS NOT MODERN

THIS METHOD IS



SPOT TRAILERS QUICKLY WITH THE CEMCO TRAILER JOCKEY

Hydraulic power under your fifth wheel is dependable in all weather—twice as speedy as the hand-cranking method. Lifts 37,500 pounds easily. Driver need not leave the cab.

The list of Cemco users is impressive—and it's growing. There must be a reason!

By the makers of CEMCO Hydraulic Tailgates, CEMCO Split-shaft Power-Takeoffs, CEMCO Underbody Hoists.

**CEMCO INDUSTRIES, INC.,
GALION, OHIO**

When Dependable Performance means most!

• The consistently dependable performance of Ditzler Finishes is the chief reason Ditzler has grown to be the largest *exclusive* producer of automotive finishes. For nearly fifty years Ditzler Finishes have been used by most of the leading manufacturers of passenger cars, trucks and buses. This continuous preference is the best proof that Ditzler Finishes are better than any others for all your refinishing needs.



You Can't Buy Better Black Enamel
than **DITZLER'S DQE-9000**

• Now better than ever—Ditzler's DQE-Jet Black Enamel widens its margin of superiority over all other brands. It is a deeper jet black—it dries rapidly to a rich glass-like lustre—it hides exceedingly well—it has excellent "build"—it may be air-dried or baked and it has durability plus. Jobs finished in DQE-9000 bring repeat business.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Co., Detroit 4, Mich.



Retail Delivery Body

Continued from Page 73

drivers in congested business areas. This increased visibility is accomplished by the vee-type front end and a very small front post cross section. A typical windshield post cross section is shown in Fig. 2 of the group of small illustrations.

It will be noted that the basic section is a small outside diameter tube, or

pipe, onto which have been welded steel strips to accommodate standard rubber glass retainer moulding.

One other small but important detail, particularly in cold weather areas, is suggested and that is the use of an open grille-type tread in that portion of the entrance step outside of the side doors and, also, on the rear step, where

one is provided. This will eliminate or lessen the accumulation of snow and ice, and add to the driver's safety.

Design Features

THE basic structure of this design is a combination of prefabricated standard high-tensile steel body sections and square steel tubing. They are covered with steel or aluminum panels and suitably lined with accepted lining material.

A deviation from the conventional floor and understructure construction is suggested in this design, due to the usually small floor-load requirements found in this type unit. The design suggested in Fig. 1 increases strength, decreases weight and costs, and gives a cleaner and more weathertight floor.

A low, high-tensile hat section is used for a cross sill, and a corrugated steel floor is welded to it. This provides easier clean-out, eliminates open cracks and splintering, and increases the inside body height, which, very often, is very critical.

It should be noted that for bodies of average inside heights, aluminum panels are available in widths large enough for one piece side panels. This, of course, simplifies the belt moulding treatment used on this design.

The front roof cap, rear roof cap, lower ball corner, the different height roof bows, side and rear doors, and sliding door attachments are available as standard prefabricated parts. The roof cove and rear vertical corners are of large enough radii to permit them to be rolled in place on the body at time of paneling.

The combination radiator grille and front bumper guard is fabricated by the body builder, and may be painted or chrome plated as a final finish. Its construction is a simple welding operation. The materials used are common iron, iron rod and half oval iron molding. This detail is shown in Fig. 4.

Painting and Lettering

VERY careful consideration should be given to color selection and lettering layouts, as it is most important that they are in keeping with the distinctive lines of the body.

Polished cast metal lettering or trademarks and polished aluminum moulding may be used with considerable effectiveness.

END

Please Resume Reading Page 74

Watch Those Eggs!

SAFETY DIRECTOR'S SON (WHILE ON FAMILY PICNIC): "MOTHER, DADDY SAYS FOR YOU NOT TO STAND SO CLOSE TO THE EDGE OF THE CLIFF, OR ELSE TO GIVE ME THE LUNCH BOX."

Wherever tire heat is a problem, fleet owners everywhere are equipping their tires with DILL HI-TEMPS. Under abnormal hot tire temperatures, even up to 300°F. and more, the newly developed heat-resisting air seal keeps Dill HI-TEMP valve insides and caps airtight. Prevent tire trouble—stop costly road delays and tire repair expense by equipping your tires with Dill HI-TEMPS, now. Your wholesaler, tire or oil company can supply you, today.

NEW Long Handled VALVE REPAIR TOOLS

Save time and trouble for your tire service man with this new handy kit of long-handled tools. Especially designed to reach inner dual tires for removing and replacing valve insides, and making necessary repairs on valve stems. A handy leather pouch with snap button lock holds the complete set of 6 tools and fits handily in pants, coat, or jacket pocket. Order from your wholesaler, tire or oil company, or write for descriptive folder.

No. 5200 TOOL SET

in Handy Leather Pouch

INCLUDES THESE TOOLS

- No. 5201 Valve Inside Inserter and Extractor
- No. 5202 Valve Cap Tool
- No. 5203 Valve Inside "Easy-Out"
- No. 5204 Valve Stem Refacer
- No. 5205 Valve Stem Seat Cleaner
- No. 5206 Valve Stem Rethreader

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by over 70% of all
Truck and Bus Manufacturers

LOWEST

HIGHEST PERFORMANCE

MAINTENANCE COST

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APPROVED" PISTON



You are safe and sure when you follow the recommendation of your engine designers. Specifically tailored to individual engine specifications, Zollner Pistons are the expert product of hand-in-hand engineering development with engine builders. You get utmost performance and economy of operation when you recondition with Zollner "Engineer Approved" Pistons. Today, as for many years, over 70% of all makes of trucks and buses are Zollner equipped. Like the vast majority of fleet owners, your experience records will prove Zollner is always the "best buy" in pistons — the choice of automotive engineers.

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HEAVY DUTY PISTON EQUIPMENT

ORIGINAL
EQUIPMENT
IN AMERICA'S
FINEST
MOTORS

ZOLLNER MACHINE WORKS

FORT WAYNE, INDIANA

MAINTENANCE SERVICE CHART	IP		IP		IP		ALL TRACTORS		KANSAS CITY & WEST		INSTRUCTIONS
	VEHICLE	CHECK	MILES	VEHICLE	CHECK	MILES	VEHICLE	CHECK	MILES	VEHICLE	CHECK
1,400 - B	35,000 - B	68,600 - B	102,200 - B	135,800 - B	135,800 - B	135,800 - B	137,200 - B	137,200 - B	137,200 - B	137,200 - B	137,200 - B
2,400 - B	36,400 - B	70,000 - B	103,800 - B	136,600 - B	136,600 - B	136,600 - B	140,000 - C	140,000 - C	140,000 - C	140,000 - C	140,000 - C
4,200 - B	37,800 - B	71,400 - B	105,000 - B	141,400 - B	141,400 - B	141,400 - B	142,400 - B	142,400 - B	142,400 - B	142,400 - B	142,400 - B
5,600 - C	38,200 - C	72,800 - C	106,400 - C	144,200 - C	144,200 - C	144,200 - C	145,600 - C	145,600 - C	145,600 - C	145,600 - C	145,600 - C
7,000 - B	40,800 - B	74,200 - B	107,800 - B	146,400 - B	146,400 - B	146,400 - B	148,000 - B	148,000 - B	148,000 - B	148,000 - B	148,000 - B
8,400 - B	42,000 - B	75,600 - B	109,200 - B	149,200 - B	149,200 - B	149,200 - B	151,200 - B	151,200 - B	151,200 - B	151,200 - B	151,200 - B
9,800 - B	43,400 - B	77,000 - B	110,600 - B	152,000 - B	152,000 - B	152,000 - B	154,000 - B	154,000 - B	154,000 - B	154,000 - B	154,000 - B
11,200 - C	44,800 - C	78,400 - C	112,000 - C	156,000 - C	156,000 - C	156,000 - C	158,000 - C	158,000 - C	158,000 - C	158,000 - C	158,000 - C
12,600 - B	46,200 - B	79,800 - B	113,400 - B	157,000 - B	157,000 - B	157,000 - B	159,000 - B	159,000 - B	159,000 - B	159,000 - B	159,000 - B
14,000 - B	47,600 - B	81,200 - B	114,800 - B	161,200 - B	161,200 - B	161,200 - B	164,000 - B	164,000 - B	164,000 - B	164,000 - B	164,000 - B
15,400 - B	49,000 - B	82,600 - B	116,200 - C	164,600 - B	164,600 - B	164,600 - B	167,000 - B	167,000 - B	167,000 - B	167,000 - B	167,000 - B
16,800 - C	50,400 - C	84,000 - C	117,600 - C	168,000 - B	168,000 - B	168,000 - B	170,400 - B	170,400 - B	170,400 - B	170,400 - B	170,400 - B
18,200 - B	51,800 - B	85,400 - B	119,000 - B	172,000 - B	172,000 - B	172,000 - B	174,400 - B	174,400 - B	174,400 - B	174,400 - B	174,400 - B
19,600 - B	53,200 - B	86,800 - B	120,400 - B	176,000 - C	176,000 - C	176,000 - C	178,400 - C	178,400 - C	178,400 - C	178,400 - C	178,400 - C
21,000 - B	54,600 - B	88,200 - B	121,800 - B	180,000 - B	180,000 - B	180,000 - B	182,400 - B	182,400 - B	182,400 - B	182,400 - B	182,400 - B
22,400 - C	56,000 - C	89,600 - C	123,200 - C	183,600 - B	183,600 - B	183,600 - B	186,000 - B	186,000 - B	186,000 - B	186,000 - B	186,000 - B
23,800 - B	57,400 - B	91,000 - B	124,600 - B	189,600 - B	189,600 - B	189,600 - B	192,000 - B	192,000 - B	192,000 - B	192,000 - B	192,000 - B
25,200 - B	58,800 - B	92,400 - B	126,000 - B	192,000 - B	192,000 - B	192,000 - B	194,400 - B	194,400 - B	194,400 - B	194,400 - B	194,400 - B
26,600 - B	60,200 - B	93,800 - B	127,400 - B	196,000 - C	196,000 - C	196,000 - C	198,400 - C	198,400 - C	198,400 - C	198,400 - C	198,400 - C
28,000 - C	61,600 - C	95,200 - C	128,800 - C	200,000 - B	200,000 - B	200,000 - B	202,400 - B	202,400 - B	202,400 - B	202,400 - B	202,400 - B
29,400 - B	63,000 - B	96,600 - B	130,200 - B	203,600 - B	203,600 - B	203,600 - B	206,000 - B	206,000 - B	206,000 - B	206,000 - B	206,000 - B
30,800 - B	64,400 - B	98,000 - B	131,600 - B	206,000 - B	206,000 - B	206,000 - B	208,400 - B	208,400 - B	208,400 - B	208,400 - B	208,400 - B
32,200 - B	65,800 - B	99,400 - B	133,000 - B	210,000 - B	210,000 - B	210,000 - B	212,400 - B	212,400 - B	212,400 - B	212,400 - B	212,400 - B
33,600 - C	67,200 - D	100,800 - C	134,400 - D								

PIE Maintenance Program

Continued from Page 53

Fig. 1. Maintenance Service Chart controls inspection periods; indicates which inspections are due at fixed mileages. Current major overhaul is at 151,200 miles

YOU, TOO, CAN GET RESULTS LIKE THESE with BATTERY AD-X2*

Here's what three West Coast users**, each with two to four years experience with Battery AD-X2, say . . .



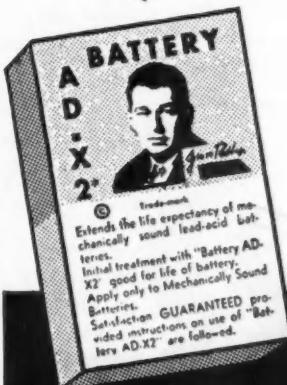
BUS LINE — "Battery AD-X2 Re-processed Batteries are about 15% lower in original cost, and have at least twice the life expectancy. We also treat all new batteries with Battery AD-X2 to prevent sulfation."



POLICE CAR FLEET — "Life expectancy extended from 12 to 18 months beyond normal even though batteries were not new at time of treatment."



EQUIPMENT DEALER — "Your method of handling our battery problems has saved up to 50% on our battery costs over past 3 1/2 years . . . also reduced downtime on rented equipment."



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PIONEERS, INC.

Jess M. Ritchie, Pres.
2411 Grove St., Oakland 12, Calif.
TWInoaks 3-6044

Still some territories, State and local, open to qualified operators.

shutter control strainers and thermostats, careful inspection of transmissions and rear-ends with replacement indicated by presence of metal chips or sludge, wheel bearings repacked and adjusted and a careful inspection of the entire tractor. This inspection requires approximately 11 man-hours.

Our major overhaul, or E check at 151,200 miles, is the one in which we go the limit on mandatory replacements. The tractor is brought to one of the three overhaul bays at the Denver shop and completely disassembled, including cab removal. Replacements include complete engine and transmission assemblies, steering gear assembly, front axle assembly, rear axle "drop-ins," auxiliary transmission, all cab instruments, fifth wheel, air governor, radiator assembly, floor boards, both fuel tanks, both air tanks and all drive lines. In addition, all other components are very carefully inspected and repaired or replaced as needed. When the overhaul is complete, the entire tractor is sent to the paint shop for painting and then to the chassis dynamometer for complete check. The engine incidentally already has had 6 hours' time on an engine dynamometer. This overhaul inspection requires an average of 163 man-hours.

We also have an F-check which includes only the complete rear tandem drive axle assembly. This is the one component for which we have not yet established a fixed replacement period, although it will be noted that the differential "drop-in" assemblies are replaced on the E-check.

Record Systems

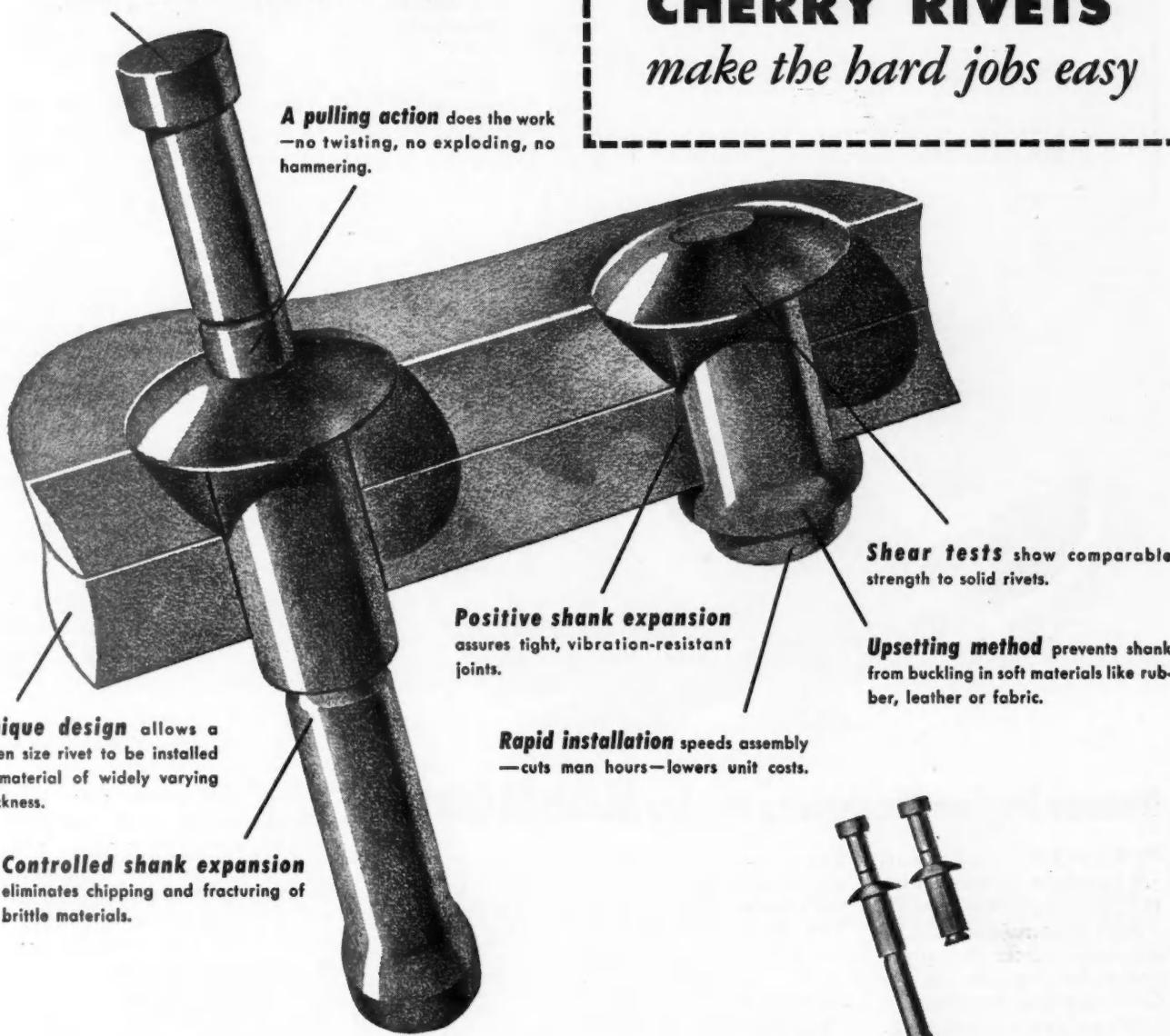
A SYSTEM such as ours, of course, requires considerable paper work. It begins with what we call a vehicle log book kept in a special container on every vehicle, both tractors and trailers. The log itself consists simply of a pad of our special form 161, 11 x 8 1/2 in. in size, reproduced in miniature in Figs. 2 and 3.

The front side consists of the driver's trip report, with a service report on the reverse side. Each driver operating the vehicle (and it may include as many as four on a single trip) must complete his part of the form at the end of every run. It will be noted that a column is provided for each of the possible four drivers showing his origin, destination, date and condition of

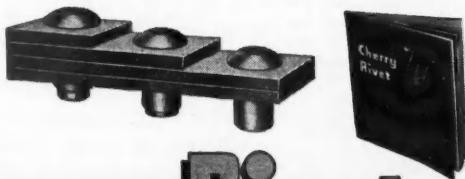
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Installed by one man from one side of the job.



For you, the particular value of Cherry Rivets may be the simplicity of installation. Or you may need the strength of Cherry Rivets and their vibration-resistance. But if you haven't met their money-saving advantages, take a moment today to ask for full information covering your applications.



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COMMERCIAL CAR JOURNAL, July, 1951

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make the hard jobs easy



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Standard Cherry Rivets are available in five diameters, from 1/8" to 9/32". Special sizes manufactured on order.

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Please send me further information describing Cherry Rivets;
no obligation, of course. bulletin sample rivets

Name. _____ Title. _____

Firm. _____ Address. _____

City. _____ Zone. _____ State. _____

PIE Maintenance Program

Continued from Page 160

Fig. 2. Front side of log is for drivers use, provides separate entry columns for as many as four separate drivers, must be completed after every run. Original log stays with vehicle until overhaul

equipment. At the bottom of each column are spaces for fuel and oil purchases, tire changes and any other enroute purchases.

The reverse side provides space for all necessary shop notation, indicating all work performed. The original sheet remains with the vehicle, while the duplicate is sent to the Denver shop office where all data is posted on a series of visible index record forms. These are so arranged as to provide a complete record, not only of the individual components on every vehicle, from tires to rear axle assemblies but also so cross-indexed as to provide the immediate location of any individual assembly by number. Thus the records kept by individual assemblies can indicate that engine No. 410 is on tractor No. 106, while the tractor card will show that the 10 tires on any given tractor are numbered so and so to so and so.

I know that all of this sounds complicated but actually we are able to perform the actual record keeping system with only three office personnel using removable component cards which are transferred from one location to another each time a change is indicated.

To properly identify the condition and whereabouts of all assemblies and used parts, we have a parts tag system, consisting of a "removal parts tag" for all parts removed and needing repairs; a "serviceable parts tag" for all parts repaired and satisfactory for use; and an "unserviceable parts tag" for parts unsatisfactory to use or repair, and which eventually will be scrapped.

While forms for the actual use of shop personnel are kept to an absolute minimum, we do have a very complete engine rebuild record consisting of 11 pages providing a very thorough record of every major part installation, tolerances, over and under sizes, etc. There is also a complete tractor overhaul card used at the E-check for complete record of all work done at that time.

Master Engine Mechanics Prefer MONMOUTH

TODAY'S trucks and buses are powered with the finest engines ever built.

For a great majority of these engines, master designers and makers specify and use CGB thin wall bearings.

When replacement becomes necessary, master engine mechanics maintain the standard of engine performance with Monmouth

Bearings. These bearings are identical in every detail with the original bearings. They excel all others in finish, in precision, in quality and in engineered performance* at standard prices.

Efficient N.A.P.A. Jobbers coast to coast are anxious to give you Minute-Man service on your needs for genuine Monmouth Bearings.



All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and insure user safety and satisfaction.



**THE CLEVELAND
GRAPHITE BRONZE CO.
REPLACEMENT SALES DIVISION**

Trailer Service

UP to this point I have not mentioned trailer service. This, however, can be summarized briefly inasmuch as it follows a similar pattern to the tractor service system, except that we have no fixed major overhaul period.

At the B-check, or 1400 miles, we inspect the air and electrical systems, check tires and wheels, completely

(TURN TO PAGE 164, PLEASE)



LONG LIFE

Get More Years of Full-Powered Performance With **VEEDOL 90 H.D.**

THE extra toughness of VEEDOL 90 H.D. comes naturally. It's an inherent quality of the fine, carefully selected crudes from which this great heavy-duty motor oil is made. That's why its famous "Film of Protection" gives greater engine mileage between overhauls... gives you longer working life from today's more expensive equipment.

In VEEDOL 90 H.D. the naturally stable oils are expertly refined and blended with scientifically selected additives that reduce gum and

sludge formation in motors, protect bearings from corrosion, and minimize lacquering of pistons and valve stems... even under continuous full-throttle operation.

Give your fleet a longer lease on life by specifying VEEDOL 90 H.D.!

**CLEANS
AS YOU
DRIVE!**

**TIDE WATER
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COMMERCIAL CAR JOURNAL, July, 1951

PIE Maintenance Program

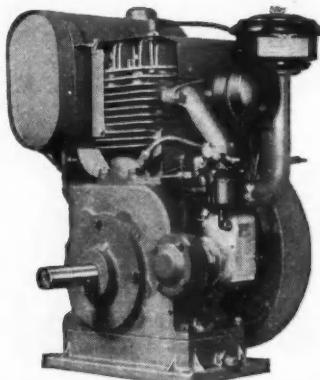
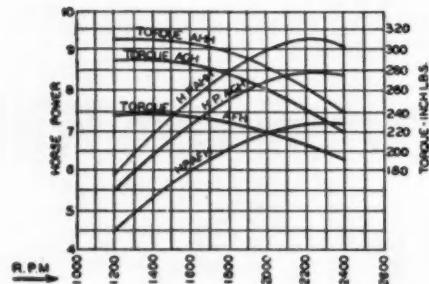
Continued from Page 162

Fig. 3. Reverse side of log is for shop use, provides complete record of all work done. Original stays with vehicle, duplicate goes to shop office, forms basis for complete record system.

Four Single-Cylinder WISCONSIN *Air-Cooled* ENGINES Offering More POWER ADVANTAGE, 6 to 9 hp.

This series of single-cylinder models have all of the traditional Wisconsin heavy-duty features such as self-cleaning tapered roller bearings at both ends of the crankshaft, rotary-type, high tension OUTSIDE magneto operating as an independent unit, and maximum torque at all usable speeds.

AEH, AFH, AGH, and AHH single-cylinder standard engine models. 6 to 9 hp.



POWER CURVE AND HORSEPOWER LISTING SHOWS MAXIMUM DYNAMOMETER HORSE-POWER OF ENGINE complete with fan, muffler, and air cleaner. For continuous heavy-duty operation do not rate the engine at more than 80% of the horsepower shown at any given speed.

M O D E L S	AEH	AFH	AGH	AHH	
Bore.....	inches	3	3 1/4	3 1/2	3 5/8
Stroke.....	inches	3 1/4	4	4	4
No. of cylinders.....		1	1	1	1
Displ. cubic inches.....		23	33.2	38.5	41.3
H.P. and R.P.M. range.....		3.9 at 1600 6.1 at 2600	6.0 at 1600 7.2 at 2200	7.2 at 1600 8.4 at 2200	7.7 at 1600 9.2 at 2200
Net weight in lbs., Standard Engine.....	130	180	180	180	
Added weight for clutch.....	35	35	35	35	
Added weight for reduction.....	25	60	60	60	
Added weight for clutch reduction.....	80	80	80	80	

Third in a series about Wisconsin Engines. Entire series yours on request.
For more detailed information, your inquiry is invited.



WISCONSIN MOTOR CORPORATION

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 15, WISCONSIN

wash and check for external damage, and do a complete lubrication. At the C-check, or 5600 miles, we inspect running gear and completely check the body. At the D-check, or 67,200 miles, we repeat these operations making any repairs necessary and repack wheel bearings.

A log virtually identical to the vehicle log mentioned above for the tractors is kept with each trailer. However, the drivers' part of the trailer log includes four profile drawings of the two sides, front and rear, so that a driver may indicate damage in the exact location in which it occurs. The reverse side, again used by the shop, indicates all work performed, including a special category of service operations for mechanical refrigerating equipment (of which we have very few).

END

Industrial Notes

BORG-WARNER CORP. has announced a record sales and earnings for 1950 in that company's annual report release recently. The increase is about \$78 million over 1949.

LEE REISC Co. has been replaced by the newly organized Automotive Equipment Mfg. Co. whose offices will be located at 11000 S. Alemeda St., Lynwood, Calif. The company manufacture automotive specialties including arbors, jacks, and lifts.

ALUMINUM CO. OF AMERICA reports that in 1950, their business almost doubled with a net income of \$46 million against \$20 million for 1949.

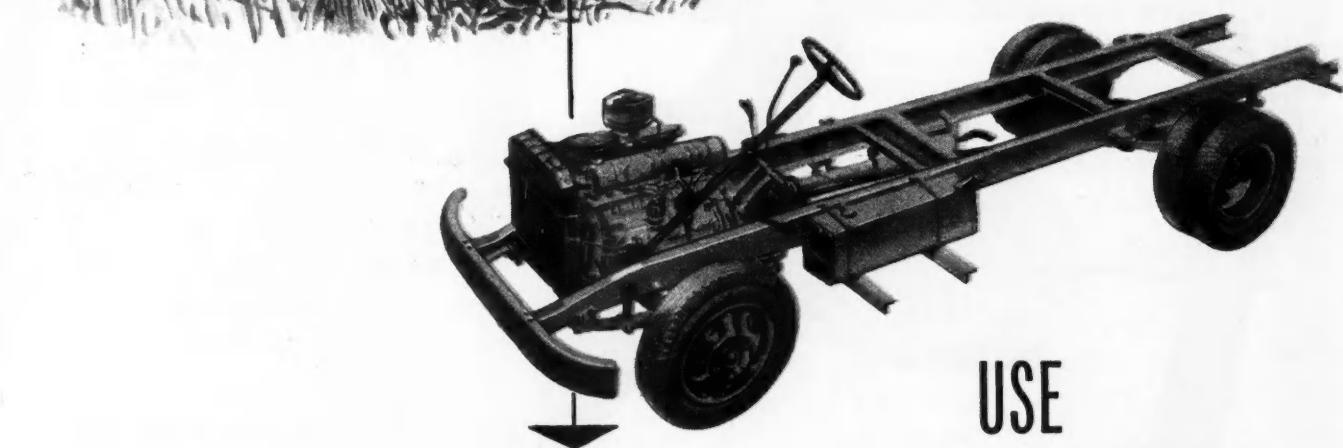
WILLYS-OVERLAND reports that during the past year there was a marked increase in sales of trucks and jeeps to commercial and industrial users. The percentage of the increase for the final quarter of 1950 was 65 over the previous three-month period.

TRAILMOBILE CO. follows the general movement to higher sales figures. The company annual report made recently stated that this increase is 85 per cent over 1949. Outlook for 1951 appears bright, with records for the first quarter already passing that of 1950.

LIFE-ROLLWAY CORP., Syracuse, N. Y., has some new packages for their line of clutch parts said to be more convenient for accurate parts accounting.

PUROLATOR PRODUCTS, INC., Rahway, N. J., have declared a dividend of 25 cents a share, and an extra dividend of 15 cents a share on the common stock of the company, payable June 11 to stockholders of record June 1.

EUTECTIC WELDING ALLOYS CORP., of Flushing, N. Y., has recently consolidated their operations in the metropolitan area into a new building, recently dedicated.



For tough,
complete
protection



USE
QUAKER STATE
SUPERFINE
LUBRICANTS

A **REALLY GOOD PRESSURE GUN** lubricant should have a lot of the same features that characterize a rhino. Toughness . . . rugged strength . . . stability. That's Quaker State EXPP2 lubricant. Weather and water resistant, this smooth lubricant is made from a unique 100% pure Pennsylvania grade base oil. It's the strongest . . . most dependable pressure gun lubricant money can buy.

To keep your equipment rolling smoother and safer . . . to protect and cushion vital chassis points, use Quaker State Superfine Lubricants.

A COMPLETE LINE OF FINEST QUALITY LUBRICANTS

- Quaker State Super Quadrolube
- Quaker State Viscous Lubricant
- Quaker State Wheel Bearing Lubricant
- Quaker State EXPP2 Lubricant
- Quaker State Universal Joint Lubricant
- Quaker State Waterproof Lubricant
- Quaker State Quadrolube

Combustion Chamber Products

Continued from Page 80

to purge a substantial portion of the combustion-chamber deposits accumulated during light-load service by a period of sustained high-speed operation.

Experimental Work

A base gasoline was selected which had an unleaded octane number sufficiently

high to permit operation without detonation throughout the course of the test work. This gasoline was typical of premium-grade base stocks and contained predominantly cracked and hydroformed naphthas. Two other fuels were prepared by adding tetraethyllead in the form of "Motor Fuel Mix" to the base gasoline in concentrations of 1 and 3 ml. per gallon.

The lubricating oil used was a premium grade solvent-extracted oil of SAE 20 grade

containing an oxidation inhibitor and a detergent additive. Crankcase oil was changed at 2000-mile intervals.

Six post-war automobiles of four makes in the popular-priced field were employed in this work. Duplicates were provided in two instances to provide a measure of differences between cars of the same make and model. A new engine was installed at the beginning of each test to reduce to a minimum those variables affected by wear. After a 2000-mile break-in period, combustion-chamber deposits were removed and the engine was assembled and placed on test.

Earlier test work of a similar nature had shown that changes in octane requirement attributable to combustion-chamber deposits could be expected to reach a maximum after 6000 to 8000 miles of operation. To develop the maximum effect, test mileage was extended to 10,000 miles. The tests were arranged in such a manner that each of the three test fuels was used in two cars during any 10,000-mile test period. At the completion of each 10,000 miles of operation, the test fuels were rotated.

The 10,000-mile schedule selected for these tests included an arbitrarily chosen 20 per cent city operation, 50 per cent suburban operation, and 30 per cent inter-city operation. This percentage was maintained over each 1000-mile increment to prevent a concentration of any one class of service during the test period. This schedule provided a type of cyclic operation that could be duplicated from test to test and also represented a close approach to actual service operation.

Test Results

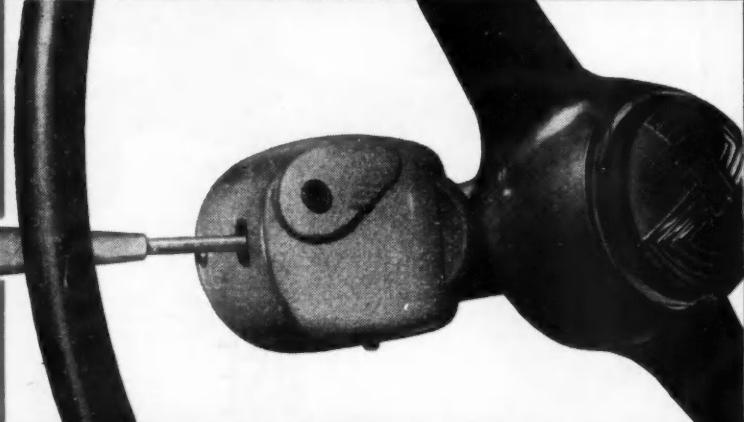
AT the end of the 10,000-mile test period, the road octane requirement and the full-throttle power output, as measured on a chassis dynamometer, were determined both before and after deposit removal. The weight of deposits after 10,000 miles of operation appears to be associated with the presence or absence of tetraethyllead but does not seem to be directly related to TEL content. With the exception of one car, there is a fair agreement in the amount of deposits for each TEL content. On the basis of deposit weight expressed in grams per unit clearance volume, it may be concluded that leaded fuels contribute about twice as much deposits as unleaded fuels.

Octane-requirement build-up is typical for all cars tested under these particular conditions of operation. The most rapid increase occurred during the first 4000 miles of operation for the leaded fuels. A state of equilibrium was reached at roughly 5000 miles. There is some indication

(TURN TO PAGE 170, PLEASE)

New!

ARROW SELF-CANCELLING SWITCH



PIONEER MANUFACTURER OF DIRECTIONAL SIGNALS

POSITIVE ACTING. Every signal is automatically cancelled once the turn is made. Finger-tip control, with rubber-cushioned action.

PROVED PERFORMANCE. Rugged and dependable, made by a firm with a reputation for quality, the Arrow Self-Cancelling Switch will outlast thousands of turns.

HANDSOME APPEARANCE. Hammer-tone gray. Handle tipped with ivory plastic. Jewel indicator. Ends of mounting straps enclosed for neatness.

EASY TO INSTALL. No holes to drill. You don't have to locate cams. As easy to mount as an ordinary switch.

FITS NEARLY EVERY CAR ON THE ROAD. SEE YOUR JOBBER SALESMAN TODAY.

COMPLETE KITS

Convert existing tail and parking lights on 1942-51 models of

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FORD
PLYMOUTH
DODGE
DE SOTO
PONTIAC

Kits for many other makes and models also available. Send for detailed catalog sheet.



Arrow Safety Device
Company
Mount Holly, New Jersey



-Biggest truck success story in years!

WHEN cost-wary highway haulers single out one make of Diesel trucks for leadership it is not by accident. Today GMC Diesels are outselling any other make. That's because experience proves they cost less to operate, less to maintain, and give more years of service than other trucks, both gasoline and Diesel, in their GVW class—24,000 pounds and up!

There are sound engineering reasons for this, which truckers everywhere have been quick to understand and make their own. Here are just a few features you will find in no other Diesel:

Two-cycle operation gives more "pep." In GMC Diesel engines *every* piston down-stroke is a *power* stroke—not every *second* stroke as in most Diesels. This gives GMC faster acceleration, smoother power and more "go" at all driving speeds.

Greater Economy from Unit Injection. In GMC Diesels fuel is supplied through individual unit injectors, mounted in each cylinder. This precision device feeds a perfectly atomized charge, automatically measured to match speed requirements. It eliminates

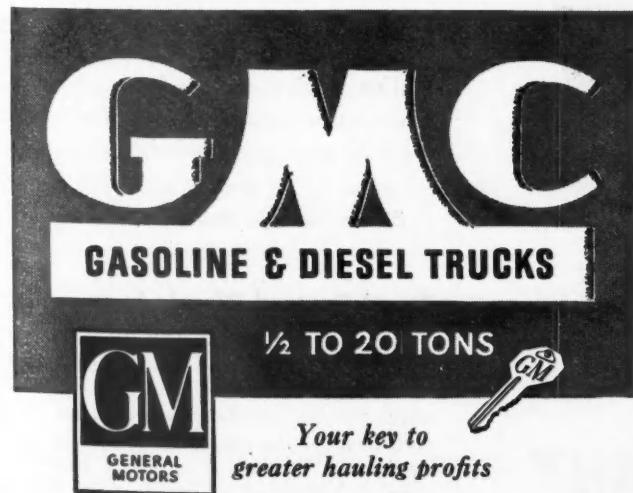
heavy fuel pumps and high-pressure lines used on other Diesels—reducing weight, insuring greater fuel economy and lower maintenance.

Syncro-Mesh levels out the grades. GMC Diesels are built with Syncro-Mesh Transmission to eliminate the hazards and slowdowns of double-clutching on hills. Drivers say it levels out the grades and gets them home faster!

Every inch a truck. Along with this big-hearted power plant, GMC Diesels offer you many other extra-value, long-life features. Rugged truck-built frames, wide-track front axles. Lifetime Weathersealed "Six-Footer" Cabs, full ball-bearing steering and many other extras you pay nothing extra for!

See for yourself. We ask merely that you inspect these great Diesels and judge for yourself. They are available in a wide range of four- and six-cylinder trucks, tractors and six-wheelers for handling any size job on, or off, the road. Make sure to see your GMC Dealer before buying your next truck.

GMC Truck & Coach Division of General Motors



NEW FASTER DIESEL SERVICE, ANYWHERE IN THE U. S. GMC's exclusive road service network protects Diesel drivers *any place, any time!* Call Western Union by number. Ask for Operator "25." She'll put you in touch with the nearest GMC approved Diesel service point.

Get a real truck!

Combustion Products

Continued from Page 166

that the unleaded fuel had not reached its peak requirement at 10,000 miles, but additional mileage would not have altered the results by a significant amount.

Grouped as a whole, these tests show that under typical passenger-car service, combustion-chamber deposits may be expected to increase

octane requirements by 8 to 12 units, irrespective of the TEL content of the fuel. These results are of particular significance to the petroleum industry for they indicate that octane-number gain afforded by the addition of tetraethyllead is not nullified by increase in vehicle octane requirement.

Effect on Power Output

THE results indicate that the effects of deposits range all the way from a gain in torque of six per cent to a

loss of more than nine per cent. Part of these differences may be attributable to differences in combustion-chamber design. Results suggest that torque loss attributable to combustion-chamber deposits is a more important factor with L-Head engines than with overhead-valve engines. Incorporation of automatic or torque-responsive transmissions adds to the importance of this problem simply because satisfactory operation of these devices depends upon maintenance of design torque.

Early stabilization of octane-requirement curves suggests that the mechanism of deposit formation is one of continuous accumulation and flaking away. Once a portion is broken away, additional deposits form and the process is repeated. Possibly the flaking action is associated with the heat transfer through the deposit layer. Some confirmation of this hypothesis may be gained by visual examination of the surfaces. At the fracture points, the deposits appear to have built up in successive layers. Experimental work designed to test this hypothesis represents a fertile field for intensive research effort. If the mechanism of deposit formation were thoroughly understood, it is reasonable to expect that a substantial reduction would be brought about.

In passenger-car service, the effect of combustion-chamber deposits is probably no more important than that of other factors, such as change in ignition-system characteristics, with respect to octane requirement and possibly with respect to performance. This seems to agree with general experience that more premium-grade gasoline is sold for malfunctioning engines designed with much lower octane requirements than for high-performance designs.

END

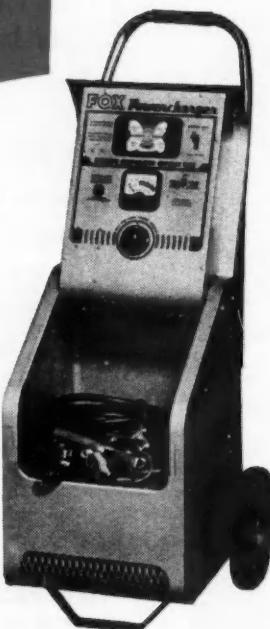
Please Resume Reading Page 82

Only FOX
has completely automatic,
electronically controlled
battery chargers!

Fox Powerchargers bring a new, fool-proof simplicity to battery charging. Just connect Powercharger to battery, turn current on. That's all! No time clock to set, Powercharger does the rest. Perfect job, automatically, every time.

Safety Therment Control

... a Fox "exclusive" It detects and constantly reports battery condition to charger. If it is improperly used or accidentally removed, Powercharger cuts off automatically. Safety Therment, exclusive with Fox, has no moving parts, is virtually indestructible.



This model and other Fox Powerchargers are available with conventional electric timer control if desired.

Other features:

Compensated Cut-Off . . . Dynamic Comparator Battery Test . . . Automatic Trouble Light . . . Fast or Slow Charging . . . Full Year's Guarantee.

Wire or write Dept. D for full details

FOX PRODUCTS COMPANY

PHILADELPHIA 41, PA., U. S. A.

Trend Toward Diesels Seen

In a recent session of SAE, H. B. Ford of the GMC Truck and Coach Div., told of the trend in the trucking industry toward the use of diesel-powered trucks, and forecast the future as being "predominantly Diesel." The swing toward diesel is contrasted against sales in 1938 when diesel truck sales totaled only 489, edged up to almost 2000 in 1946, then soared to 12,669 in 1950, Ford said.



EXPLOSIVE RIVETS MAKE FASTENING JOBS EASIER Save Time—Work—Money

Du Pont Hi-Speed Industrial Explosive Rivets are used by many custom truck-body builders to facilitate fastening jobs of all kinds. These modern fasteners simplify the work . . . speed up operations . . . reduce costs.

They make tough, trouble-spot fastening easy, and enable operators to complete routine jobs quickly. Builders find them ideal for attaching side and door panels, roof plates, interior linings, moldings and brake relinings. They expedite the assembly of steps, running boards, kick plates, floors and small compartments.

Explosive Rivets are easy to use. There's no need for costly equipment or extra power...no bother about close tolerances. And there's no troublesome after-finishing because Du Pont Explosive Rivet heads are smooth . . . require no trimming, filing or polishing. Individual operators can readily set from 15 to 20 per minute with a

heated iron, for these Rivets need no bucking bar to back them up.

The extremely long grip range of Du Pont Explosive Rivets permits fastening materials varying as much as



.125" in thickness (as the sketch shows). This additional feature means you can stock fewer Rivet sizes . . . save

more time and money on each job.

Why not look into this easier, improved method of fastening? Many prominent truck-body builders now use Du Pont Hi-Speed Industrial Explosive Rivets to speed up their assembly operations and keep costs down all along the line . . . and make better-looking jobs. Write today for free manual A6. No obligation. E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

DU PONT HI-SPEED INDUSTRIAL EXPLOSIVE RIVETS



A Product of Du Pont
Explosives Research

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

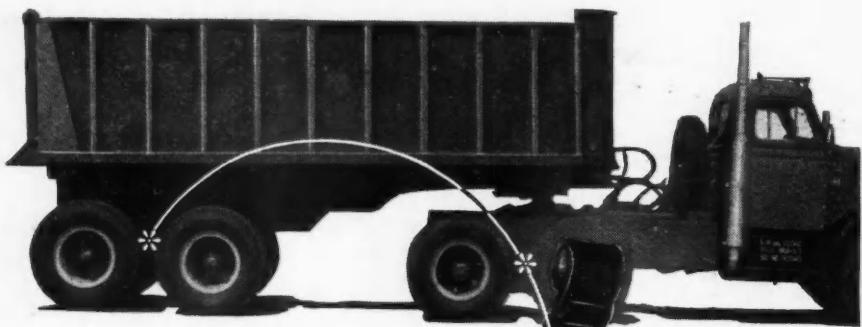
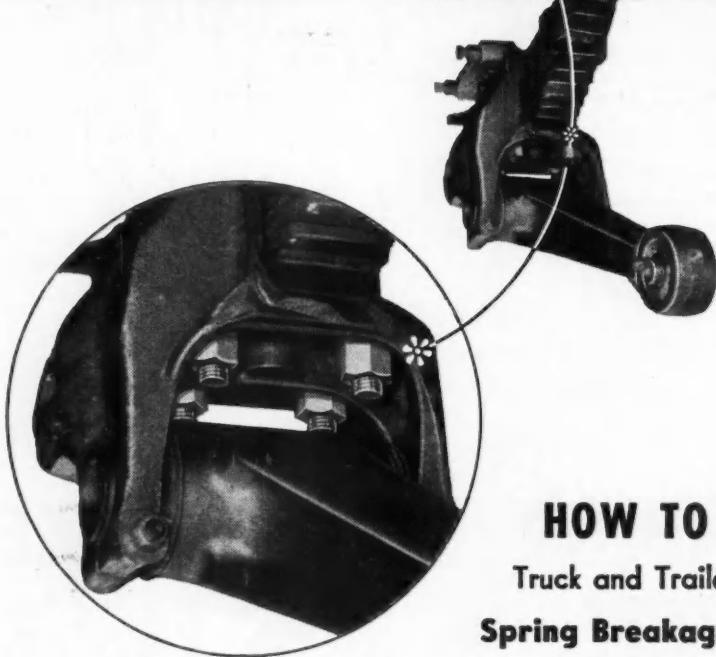


Photo courtesy
Hendrickson
Motor Truck Co.



HOW TO REDUCE Truck and Trailer Spring Breakage

Gripco HI-Nuts lock and hold Truck and Trailer Springs securely in position, thus keeping Spring Breakage at a minimum.

Gripco HI-Nuts have approximately 50% greater height than standard nuts, hence 50% greater thread strength and holding power.

Gripco HI-Nuts are used for other applications, wherever the strength of standard-height nuts is insufficient for the stress and strains to which they are subjected.

Samples and Prices of Gripco HI-Nuts will be submitted on request.



Balanced Wheels

Continued from Page 34

is worn where contact is made repeatedly.

Dynamic unbalance occurs when one side of the wheel is heavier than the other. It causes little trouble at low speeds, but a lateral vibration (known as shimmy) is set up when the car goes at fairly high speeds. The wheels tend to turn inward and outward every 180 deg. You can sum it up this way: Truck wheels out of balance statically cause a vehicle to vibrate vertically. Truck wheels unbalanced dynamically cause horizontal vibration. Whenever you repair a tire, whether it be vulcanizing, recapping, or inserting a boot, wheel balancing is called for. A repaired tire or tube has a heavier spot wherever material is added. Trouble can be caused when this added material is placed at a position on the wheel assembly that already has the heavy spot.

END

Please Resume Reading Page 36

Detroit Dispatch

Continued from Page 31

Diesel Sales Way Up

Industry figures show that sales of trucks with diesel engines have climbed rapidly since the end of the war, with the sharpest upsurge occurring between 1949 and 1950. Sales of diesels to U. S. fleet owners nearly tripled from 1949 to 1950, going from 4485 to 12,682. Even compared with 1948 the largest truck production year on record, sales, diesels still are a very small factor. However, as a percentage of the total truck sales, diesels still are a very small factor, accounting for only about 1.3 per cent last year.

But No Small Ones Yet

Reports that the large volume truck builders will come out with a small diesel crop up occasionally, but apparently have no basis in fact. The growth of diesels since the end of the war has been very rapid, but only in the larger trucks. It is true that one company now building diesels has two smaller types under development, but these are still a long way off. Details are confidential, but it is understood that the engines are considerably lower in hp range than anything now available.

END

Please Resume Reading Page 37

COMMERCIAL CAR JOURNAL, July, 1951

70,000 MORE EXPECTED

Tires!*



Owner Jack Schnitzer, Schnitzer Trucking Co., places finger-tips between treads on unit No. 32 to show Fruehauf's Los Angeles Branch Manager Porter depth of remaining tread—an expected additional 70,000 miles after traveling over 250,000 miles on original rubber.



TREAD "PRINT" (right) taken directly from tire of Schnitzer Gravity-Tandem Unit No. 32 by W. D. Pritchard, Maintenance Engineer, Fruehauf Los Angeles Branch.



BILL HOFER, Montgomery-Ward & Co. (Riverside Tires) measures remaining tread depth after 250,000 miles—7/16" depth measure indicates an easy 70,000 more miles before recapping.

Fleet Doctors Tell...

Continued from Page 66

in the Navy, and a diagnosis of duodenal ulcer with bleeding was made. He was receiving 10 per cent disability from the Veterans' Administration.

Our experience has shown that bus operators work under stress which, in this case, could aggravate his pre-existing condition and incapacitate him. He was rejected.

2 D.W., a 32-year male, on physical examination, was found to be completely normal except for severe obesity (100 lb. overweight). This physical limitation prevents the candidate from sitting behind the wheel comfortably. Life insurance statistics show that these individuals develop hardening of the arteries, high blood pressure and diabetes, and their life expectancy is decreased. We rejected this candidate for obesity.

If any candidate loses a sufficient amount of weight to meet our standards, he may reapply for examination.

3 J.R. was rejected because of severe high blood pressure. It has been shown that, in the presence of hypertension (high blood pressure), sudden strain might easily be responsible for the rupture of a cerebral (brain) blood vessel, with a resulting stroke and paralysis. It is known that even in the absence of strain, a patient may have a spontaneous rupture of cerebral blood vessels with paralysis. It is obvious that such a candidate is a hazard to public safety.

4 A.T. was perfectly normal physically. However, during the discussion concerning his history, the physician noted that he talked bombastically and rapidly. On close questioning, the candidate stated that, "crowds of people aggravated me and make me nervous." He said he was unable to adjust to masses of people, and that he "couldn't stand foolish questions." This type of individual is definitely not suited for bus operation. He would meet daily the situations which he resents.

A routine examination made without stress on personality, and without interest by the physician in eliciting an adequate history, would miss important information, as illustrated in the above case.

II—MEDICAL ABSENCE OF REGULAR EMPLOYEES

ANOTHER medical means by which the accident rate may be reduced is the careful detailed inquiry into every absence for medical reasons. This is accomplished in several ways.

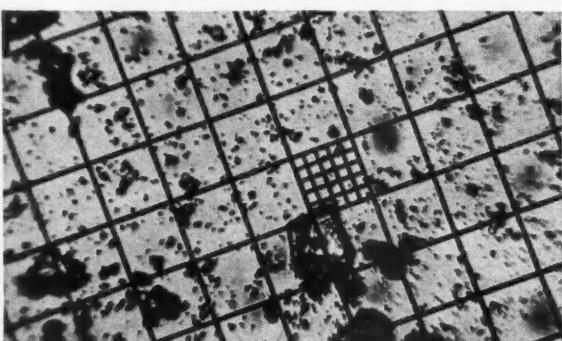
A. When an employee comes to the clinic for any illness or accident, his chart is carefully studied by the physician to determine the nature of any previous difficulty. At the same time, a complete physical examination is performed.

B. Any operator who is away from work five days or more is visited at his home by a staff physician to determine the reason for the absence. If the employee does not have his own physician, our staff physician will prescribe for him, if necessary.

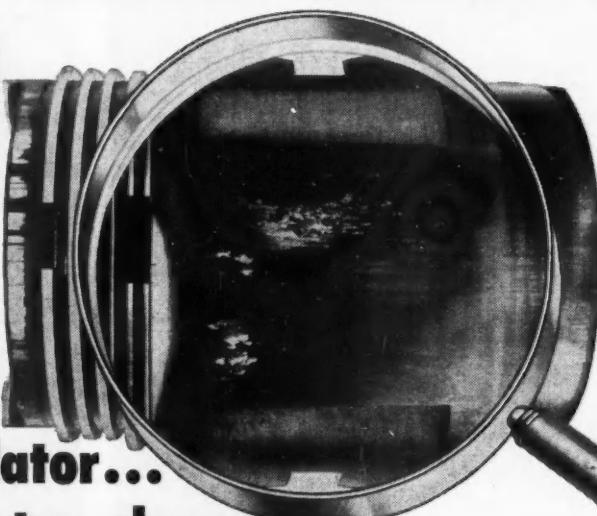
C. In New York State, since July 1, 1950, a Disability Law has been in effect. Disability forms must be filled out by the attending physician. These forms are carefully studied by the medical director of the Third Avenue Transit System. The condition of the employee is noted.

The above methods of observation permit meticulous study of each employee so that no one who is suffering from some illness that might suddenly incapacitate him is permitted to drive. Steps are taken immediately to correct (TURN TO PAGE 178, PLEASE)

YES!



NO!



**Only Purolator...
and Purolator alone
provides this PLUS-Protection**

Gives up to 10 times the filtering area of ordinary filters.

Traps up to 3 times the average volume of abrasives caught by other filters tested.

These 2 important pluses make

the Purolator Micronic Refill your best buy.

Get in touch with your supplier for further information. He has a Purolator Refill for practically every make of filter.

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada
Factory Branch Offices: Chicago, Detroit, Los Angeles

*Reg. U. S. Pat. Off.



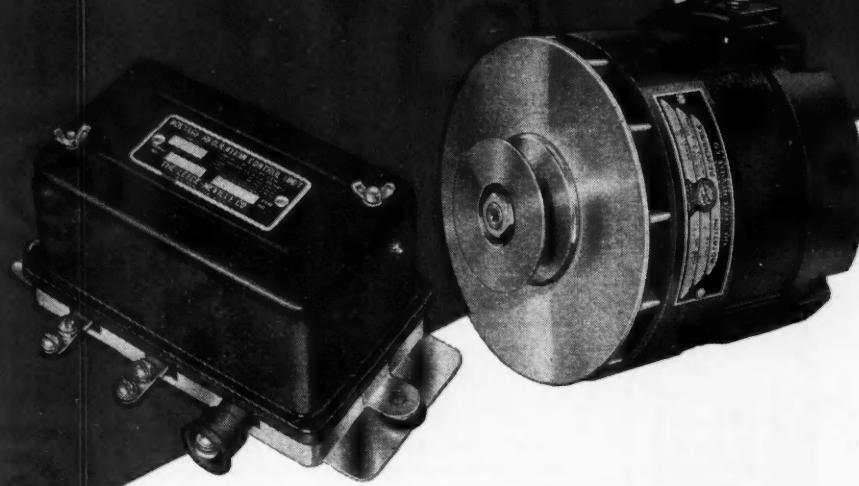
You get 5 proven advantages

when you use the
Leece-Neville ALTERNATOR SYSTEM

- 1 Surplus Amperage under absolute control at all speeds.
- 2 Fully charged batteries—no over charging.
- 3 All electrical units protected, yet operate at maximum efficiency.
- 4 Long-life assurance to all electrical units.
- 5 Infrequent maintenance—low cost operation.



There is an L-N electrical system to serve every requirement. Dependability and economy are the inevitable result of their use. Don't operate with less than the best—L-N. Correspondence invited.



BE SURE TO SPECIFY LEECE-NEVILLE

Today your vehicles deserve a better electrical system . . . a system that for years has held the highest reputation for dependable heavy duty performance: The L-N Alternator System.

The modern need for more amperage is soundly provided through the exclusive L-N Alternator System—available in units serving from 50 up to 175 amperes. For years the L-N Alternator System has been in use on thousands of vehicles, delivering ample current for all accessories and insuring full life of batteries.

The "watch dog" of this great electrical system, the patented L-N Voltage Regulator, has all the L-N characteristics of rugged design and construction, plus sensitive control that assure dependable and sufficient electrical output for every type of service.

And like all L-N electrical units, this regulator is so designed and constructed that maintenance adjustments, if and when necessary, are generally practical without recourse to complete unit replacement. *In these days that's important.*

THE LEECE-NEVILLE CO., CLEVELAND 14, OHIO



QUALITY ELECTRICAL EQUIPMENT
FOR OVER 40 YEARS

Fleet Doctors Tell . . .

Continued from Page 176

the condition or recommend that the employee does not return to his job as a bus operator. In most instances, the condition can be controlled or improved and, after a short absence, the employee may return to his usual job.

There has been a very definite labor relation problem associated with the removal of certain ill operators from their jobs. This has required patience and understanding of both the union

representatives and the medical department. We feel that it has worked out to great advantage for everyone.

Examination of Employees

WHEN men are completely and permanently unable to work as bus operators, because of any physical defect or illness, one of two things occur: Either the man is pensioned, if his illness warrants it, or else another job is found for him that will not injure his health nor be a detriment to public safety. Examples of cases in this category follow:

1 J.P., a 48-year bus operator who has been working for this company for six years, developed what he termed an "upset stomach" with nausea and vomiting. He returned to our clinic with a note from his own physician stating that he was able to go back to work. On careful examination by one of our staff physicians, it was felt that the patient probably had had an epileptic convolution.

The operator was not permitted to return to work. He was told to visit his private physician and an electroencephalogram was suggested. This was performed by the Veterans' Administration Hospital and found to be markedly abnormal.

At a later date, these tests were repeated by the patient's own consultant, who corroborated our findings. On the basis of this evidence, another position more suitable to the man's health was obtained. Not only is this man happy in his present capacity, but is grateful to the medical department for determining the type of illness he had and finding him a position that would not aggravate his condition.

2 An example of preventive medicine, applied in our medical department, is frequently seen in the handling of cardiac cases. D.M., a 41-year male, who had been driving for the company for three years developed an acute coronary thrombosis with myocardial infarction (severe heart attack). In addition the employee had high blood pressure and was overweight.

The chance of another attack in a patient who had a previous coronary occlusion is definitely higher than the incidence of occlusion in those without previous episodes. The chance of sudden death from a second attack is greater than the chance of death in the first attack. The tension, aggravation, strain of traffic, making sharp turns, and dealing with unexpected situations while operating a bus, can be detrimental to an employee who has had a coronary occlusion.

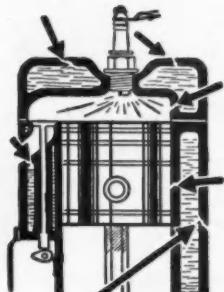
We feel that it is beneficial to the employee and in the interest of public safety to transfer operators who have had one coronary occlusion to less strenuous and less dangerous work. The employee to whom we refer was transferred to a clerical position and has been doing exceedingly well for the past three years. He is very grateful for what has been done for him.

The problem of the cardiac in the transportation industry is such a large one that it is to be taken up in a separate paper. (The authors will rewrite this in lay language and present it to CCJ readers in an early issue.—ED.)

(TURN TO PAGE 180, PLEASE)

LUSCO PLASTIC SEAL

The AMAZING CHEMICAL containing SEALIUM
(an exclusive product of LUSCO, Inc.)



Repairs all kinds of cracks in motor heads and blocks including CRACKS DIRECTLY INTO THE COMBUSTION CHAMBER
(available in 'HEAVY DUTY' \$3.00 per pint list)

Repairs radiator leaks just as effectively or more so and just as permanently as a solder job. (available in 8-oz. cans \$1.00 list)

Works perfectly in water, alcohol and glycol. Is an excellent cleaner as well as a phenomenal sealer.

Makes possible amazing leak repairs in high pressure industrial boilers as well as low pressure steam heating boilers. (available in one gal. container 'Heavy Duty' or special Heavy Duty)



LUSCO Seal-Wel CUBES (18 years in the market)
The World's best low priced radiator seal at 30¢ per CUBE list. May be sold with "GUARANTEED 90 DAY SERVICE." The conditioner and leak-proofing material that should be included with the liquid in every motor circulating system. Makes a motor run better. Insures anti-freeze installations.

LUSCO-vize
The World's best standard Polish for AUTOS — FURNITURE — WINDOWS (and all smooth finishes) "CLEANS TO THE ORIGINAL FINISH"

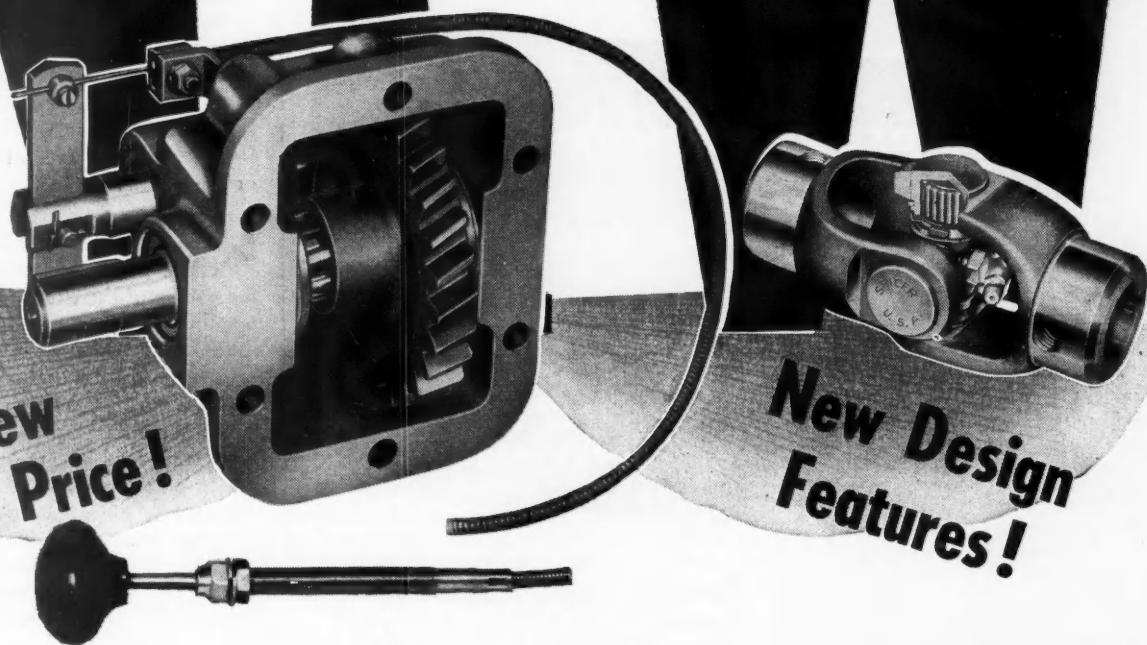
These are our claims for The LAZY MAN'S POLISH, either LUSCO-vize or SIL-vize. It is the fastest and easiest product to use and gives super results. It may be applied in brilliant sunlight, over wet surfaces, over the entire surface before wiping off, does not stick, streak, or fingermark. Works perfectly on Duco, Paint, Enamel, Synthetics, Varnish and Chrome.

FILL IN COUPON BELOW



LUSCO, Inc., 5915 Bonna Ave., Cleveland 3, Ohio
Enclosed is my letter head (or bill head). Please tell me how I can secure three cans FREE for trial. I am interested in:
 LUSCO PLASTIC SEAL for
 The LAZY MAN'S POLISH
 Please RUSH me C.O.D. Parcel Post prepaid three boxes LUSCO Seal-Wel CUBES \$6.48
Name
Position (please print)

NEW



Spicer Brown-Lipe Model AA Power Take-Off

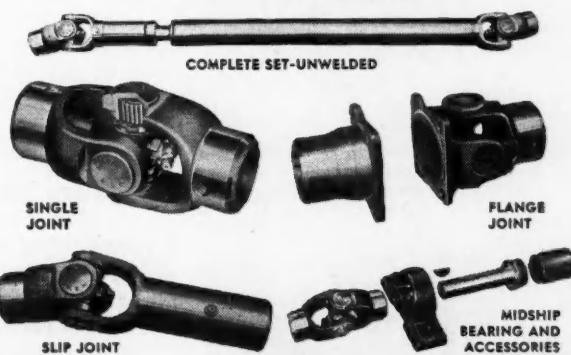
The new Model AA Spicer Brown-Lipe Power Take-Off gives you all the advantages of famous Spicer engineering, Spicer precision manufacturing, and Spicer quality — plus an attractive popular price! Here are the outstanding features:

High Efficiency and Long Life • Needle Bearings • Spur or Helical Alloy Steel Gears • Cable or Lever Control • Easily Installed • No Adaptors or Filler Blocks Needed for Helical Models.

The new Spicer 1000 Series P.T.O. Joint is a fitting quality companion for the new Model AA Power Take-Off. It is a small compact needle-bearing unit, ruggedly constructed, with high capacity. Designed for both continuous and intermittent service. Other special Spicer features include patented blowout-proof oil seal, lubrication fitting, small diameter and wide angle. Can be installed in limited operating space.

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and Spicer 1000 Series P.T.O. Joints



TRANSMISSIONS • CLUTCHES • PARISH FRAMES • SPICER® BROWN-LIPE® GEAR BOXES • PROPELLER SHAFTS • STAMPINGS • FORGINGS • TORQUE CONVERTERS • PASSENGER CAR AXLES • UNIVERSAL JOINTS • RAILWAY GENERATOR DRIVES • POWER TAKE-OFFS

Spicer-Built
Brown-Lipe
POWER TAKE-OFFS

SPICER MANUFACTURING
Division of Dana Corporation
TOLEDO 1, OHIO

Fleet Doctors Tell . . .

Continued from Page 178

3 Another problem that we are faced with is that of the diabetic as a bus driver. We feel very strongly that diabetics must be handled as normal individuals, and given the same benefits and opportunities. However, any diabetic who is taking insulin has, at all times, the potential danger of an insulin shock with sudden unconsciousness and coma. Thus, diabetics treated with insulin are not permitted to drive a bus or truck.

In our company we have at least 20 bus operators who are diabetics but not taking insulin. It is essential for the medical department to follow closely these men; not only by periodic examinations, but also by contact with their personal physicians. Control of a diabetic's status is desirable to prevent the development of the associated degenerative diseases.

It is the duty of the medical department to maintain the dignity and self respect of the individual, and preserve his right to earn a living to the best of his ability. It is important for us to

differentiate between those bus operators who have serious illnesses that will be aggravated by their work, or possibly be a detriment to public safety, and those bus operators whose illnesses will not be aggravated by working and will not endanger the public. The following two cases demonstrate this point.

4 W. W., a 53-year male, came to our department with a diagnosis of having had virus pneumonia. Examination by our staff physician revealed that he was suffering with a mediastinal tumor (chest cancer). He was given X-ray therapy with shrinkage of the tumor and alleviation of symptoms.

He was permitted to return to bus operation, in spite of the fact that the eventual prognosis was grave. We know that driving a bus would not aggravate his condition, nor would it cause him to endanger the lives of his passengers or the public.

5 J.G., a 53-year male, came to the clinic for a minor injury. During the course of the examination, he stated that he "enjoyed driving a bus. At times when I approached a certain bridge on my route," he said, "I feel that I would like to fly over the bridge with my bus instead of making the regular turns." Further questioning revealed other delusions.

Detailed examination showed that this man had syphilis of the brain. He was referred to an outstanding consultant in this field and complete treatment was given. In a comparatively short time, his condition was arrested, and he has returned to work as a bus operator and, for many years, has had no accidents. He returns for routine examinations regularly and continues to be completely well.

This is an excellent example of the value of routine physical examination of all vehicle operators. It also illustrates how serious diseases can be cured and operators permitted to return to their usual work.

III—CONSTANT VIGILANCE BY SAFETY DEPARTMENT

ANOTHER method of maintaining a low accident rate is by constant vigilance on the part of the safety department. The safety department studies the details of each accident, and has a regular meeting with union representatives and the operators.

As a result of the accident study, an operator may be sent for recheck on the Motor Ability or Psycho-Physical Testing apparatus to determine if there is some defect or obvious reasons for his accidents. He may even be sent for

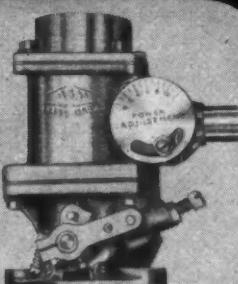
(TURN TO PAGE 184, PLEASE)

Improved Engineering

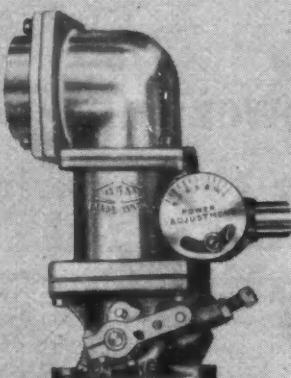
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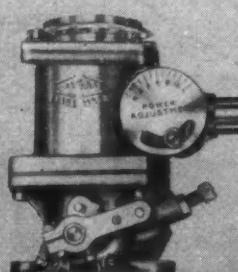
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WITH DONALDSON TYPE
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ANOTHER important engineering improvement puts AL GAS carburetion equipment far ahead! The new AL GAS 1400 Series Carburetor is now designed with a removable airhorn, eliminating the necessity for changing the air cleaner to fit the carburetor.

Provides Greater Flexibility

Universal design means that each model may be used for a variety of airhorn sizes, either straight or Donaldson type.

Makes Installation Easier

Three principal parts, each entirely separate, make installation a simple matter. Mixer assembly may be rotated into any one of four positions.

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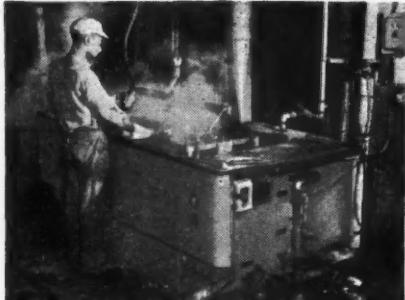
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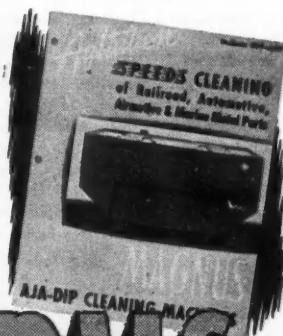
You load the parts in the machine and press a button. The machine takes over with a "swooshing" up and down motion of the parts in the cleaning solution that cuts cleaning time by as much as 75%. Skilled workers use their skill, not their muscles, and you're ahead of yourself all the time on cleaning operations.

Study Bulletin 409-AST to see why cleaning mechanization pays. We'll gladly send a copy!

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MAGNUS
CLEANERS • EQUIPMENT • METHODS



Fleet Doctors Tell . . .

Continued from Page 180

retraining to correct a specific type of error.

Many of these employees are referred to the medical department where staff physicians study the operator's history, his social life, home environment, illnesses and troubles of his family, to determine any reason for anxiety. Correction of this trouble or worry often stops further accidents. A good example of this was the case of a young man who suddenly had three accidents within a period of two months. His past record had been excellent. The safety director referred him to the medical department for study.

After careful examination and questioning, it was found that he had been married recently. His wife was born in California and she was extremely anxious to return there. The operator was afraid that he would not be able to get a position and support his wife in California. There was constant bickering between the newlyweds. Upon the advice of the medical director, the operator was given a leave of absence for six weeks so that he could go to California. This advise was followed.

After five weeks, he returned extremely happy because, during the visit with his wife to the West Coast, she decided that she liked New York better. Since his return, two years ago, he has not had any accidents.

Medical standards also have been established for our mechanics, except that the physical and mental criteria are not as high nor as rigid.

There are a number of details that must be taken into consideration with mechanics in the same fashion as with bus operators. They can be developed by a physician with experience in industrial medicine for a particular fleet, or citywide for a group of fleets.

The cost of maintaining a good medical department is small in comparison to the tremendous saving accomplished by accident reduction; to say nothing of reducing absenteeism and improving the quality of service obtained.

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END

Please Resume Reading Page 70

"No blowouts in 7 million miles"

WITH NYLON CORD TIRES

"Of the hundred or so nylon cord tires we have, not one has blown out," says Sid Rothman, General Manager of Interstate Dress Carriers, Lehighton, Pennsylvania. "They've traveled over 7 million miles—on good roads and bad—in all kinds of weather. Our experience is that we have at least 50 blowouts with other tires in that amount of use."

"And here's another fact . . . we have yet to throw away a nylon carcass. Every nylon cord tire that has worn smooth has been successfully recapped. Thirty carcasses have gone over 100,000 miles. Resistance to sidewall bruises has been remarkable."

"We're buying more nylon cord tires."



NYLON CORDS PROTECT AGAINST ALL THESE CAUSES OF TIRE FAILURE

Heat—Nylon cords can withstand hotter temperatures than a tire will ever encounter on the highway.

Moisture—Nylon's resistance to deterioration by water will save a tire where other tires would fail.

Flex Fatigue—Nylon's resilient strength makes tire cord stand up under the complex compression-tension flexing that takes place every time a tire turns—reduces flex-fatigue failures.

Bruise Damage—Nylon's toughness virtually ends cord ruptures caused by tires hitting curbs and holes at high speeds.



Try a set of nylon cord tires and compare their performance with other tires in every way. Run them on your toughest haul, for your heaviest loads. You'll find that nylon's resistance to heat, moisture, flex fatigue and bruise damage gives you important extras. Nylon cord tires reduce carcass failures, cut down road delays, and give you a higher percentage of successful recaps—which all add up to lower cost per mile. See your dealer, equip one rig, prove it to yourself.

Free Booklet on nylon tires—write for your copy. Nylon Division, Dept. C-2, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

NOTE: Du Pont makes nylon fibers, does not produce tires. A number of rubber companies have nylon cord tires available.



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Continued from Page 122

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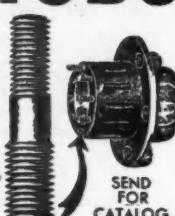
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When you buy new equipment, be sure you improve driver efficiency as well as mechanical efficiency. Bear in mind that nothing contributes more to driver fatigue than poor seating. Specify Bostrom hydraulic seats that reduce fatigue, promote safety, and cost less in the long run.

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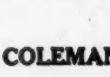
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Shock absorber and suspension mechanism of Bostrom seats soak up jolts and jars. Fore and aft adjuster accommodates all drivers. Steel frame and mechanism outlast the truck; eliminate repairs. Snap-on seat coverings can be replaced in 10 minutes; eliminate upholstery jobs.

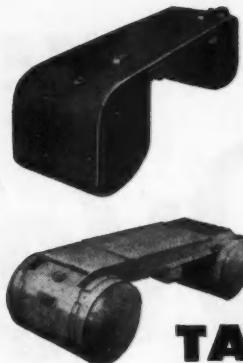
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CCJ Reports

Continued from Page 92

Allman Leaves Fruehauf

L. C. Allman, former vice president of the Fruehauf Trailer Co., Detroit, has established an advertising agency to be known as the Allman Co., with offices in the Free Press Building, Detroit. The new agency will handle the Fruehauf advertising contracts.

Wholesalers Convention Set

Dates for the convention of the Motor and Equipment Wholesalers Association's 1951 annual convention have been set at December 5, 6, and 7 at the Stevens Hotel, Chicago. Officials of the association have decided not to conduct conference booths due to changed conditions resulting from the defense program.

Materials Facts Presented

America's trucking industry is backing up its fight for allocation of materials with facts concerning the vital importance of that form of transportation to the nation's welfare.

Part of the program illustrates the growth of the industry in 20 years. The graph used appears above covering the periods 1929-1949. Various media are being used to present the trucking industry story, in an effort to establish recognition by government agencies as an important part of our economy, therefore deserving of proper materials allocation.

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Driver Movie May Be Borrowed

The new driver safety motion picture "A Professional Portrait" released recently is now available for free loan. It is a 16-mm sound film produced by Automobile Manufacturers Association and sponsored by 12 highway transportation organizations. For further details write National Highway Users Conference, 952 National Press Building, Washington 4, D. C.

END
Please Resume Reading Page 31

FRINK SNO-PLOWS
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Both "V" TYPE and ONE WAY BLADE TYPE hand or power hydraulic control
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FROM 1½ to 10 TONS

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